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ANAEMIA INFANTUM PSEUDOLEUKAEMICA.*

BY MAXIMILIAN HERZOG, M. D., CHICAGO.

A remarkable state of confusion clouds our conception concerning the disease called by a number of writers Anaemia Infantum Pseudoleukaemica. It is perhaps true as has been pointed out repeatedly, that the anaemias of childhood cannot be as well classified and diagnosticated as those of adolescence; the reason being the peculiar instability of the blood of infants and young children in whom even comparatively transitional disturbances of the haemopoetic organs appear to lead very easily to profound changes in the blood with reversion to an embryonal type and the presence in the circulating blood of more or less numerous nucleated erythrocytes.

The confusion which exists concerning anaemia infantum pseudoleukaemica is largely due to the peculiar manner in which Von Jaksch, who first under this name described an anaemia of early childhood—introduced this subject. Most of the subsequent reporters and authors treating of this form of anaemia begin their considerations by quoting Von Jakschs' article. "Ueber Leukaemie und Leukocytose im Kindesalter" published in 1889 in the "Wiener Klinische Wochenschrift" in which paper the author says:

"I do not want to discuss today the different forms of profound anaemias of childhood, which have up to date, not been well studied, neither from a clinical or an anatomical standpoint. I will, however, in the near future discuss at length these interesting morbid conditions. One point, however, I would like to emphasize today, viz: The boundary lines, limiting the different types of diseases of the blood in childhood, must be laid differently from the boundary lines of these diseases in adolescence.

While the latter diseases in the present state of our knowledge may be limited to the types of chlorosis, leukaemia, pseudoleukaemia and the different varieties of pernicious anaemia, we find among the diseases of the blood in childhood, one which clinically presents the picture of a leukaemia. We have marked swelling of the spleen, the liver, of the lymph glands, permanent leucocytosis of a high degree (proportion of white to red blood cells equal to 1 : 20, 1 : 17, 1 : 12). In spite of this however, the post mortem findings do not show leukaemia. I want to call this type of disease of the blood from the most marked features, as long as we do not know more about it, and in order to distinguish it from leukaemia, *anaemia infantum pseudoleukaemica*. I will later report in detail on the clinical course of and on the anatomical findings in this affection. My observations have established beyond doubt that these cases are by no means rare in childhood and they have probably been repeatedly mistaken for leukaemia."

The reader will expect that the report of a case or cases of anaemia infantum pseudoleukaemica will now follow these introductory remarks, but the author instead, reports at length a case of true leukaemia in a boy 14 months old. This case came to post-mortem later and the pathologist (Eppinger) demonstrated typical leukaemica changes in the internal organs. So we have here a case of true leukaemia in a young child, a case which both the clinician and the pathologist had reported as one of leukaemia; yet most of the subsequent writers have quoted and dwelled upon this case as one of anaemia infantum pseudoleukaemica; hence a good deal of confusion has arisen. Fischl, an Austrian author, who in 1894, only a few years after Von Jaksch wrote on Anaemia Infantum Pseudoleukaemica, already makes the mistake to quote Von Jaksch's case of leukaemia as one of infantile pseudoleukaemia, though

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Koplin, who published an article on the subject of Anaemia Infantum Pseudoleukaemica in 1893 had not fallen into this error. The last extensive article on the disease under discussion, written by Wentworth, likewise contains the mistake of including Von Jaksch's case of leukaemia in an infant, under the tabulated cases of anaemia infantum pseudoleukaemia. After Von Jaksch had called attention to this disease more cases of this type were reported by Hayem and Luzet. The French authors first called attention to the presence of a large number of nucleated erythrocytes; (many with karyokinetic figures) in the circulating blood in anaemia infantum pseudoleukaemia. It was later on pointed out, that the condition to which Von Jaksch first called attention in 1889 had been described previously by Italian writers under the name of anaemia infectiva dei bambini (Infective anaemia of the Infants). There have now been reported about 25 or 30 cases of this type of profound anaemia in children and it has been stated repeatedly that this type of infantile anaemia is not a primary anaemia and a disease *sui generis*, but a secondary anaemia due to a variety of causes and most frequently associated with rickets. From a study of the literature, it indeed appears as if this condition is as a rule met with in connection with rachitis, though a number of cases with the typical blood and other findings did not present any rachitic symptoms whatever.

It appears to us that at the present stage of our knowledge, the main point at issue, is not to decide whether anaemia infantum pseudoleukaemica is a primary or a secondary anaemia, but the importance of recognizing what has been designated by this name and to differentiate it clearly from leukaemia in which the prognosis is absolutely bad, from splenic anaemia in children in which removal of the spleen is probably the best therapy and from primary pernicious anaemia in which the prognosis is likewise very bad. Whether true primary pernicious anaemia occurs in children seems to me somewhat doubtful; a case reported as such in the American literature by Holt, is evidently not one of primary pernicious anaemia, but one of splenic anaemia or primary splenomegaly.

The prognosis in anaemia infantum pseudoleukaemica is by no means as bad as that of leukaemia and primary pernicious anaemia. It is on the contrary comparatively good, most cases terminating in recovery.

The general picture of anaemia infantum pseudoleukaemica presents the following features:

The children subject to the disease have generally developed normally, up to a certain age; they then fall behind in development and a progressive anaemia manifests itself. A physical examination shows a much enlarged spleen, a somewhat enlarged liver, not infrequently some enlarged lymph glands. A considerable percentage of the cases presents distinct typical rachitic symptoms; the blood shows a marked diminution of the number of red corpuscles and a reduction in the amount of haemoglobin. Nothing very characteristic about the color index. Marked leucocytosis, sometimes some myelocytes present. Most characteristic is the presence of nucleated erythrocytes, both normo- and megaloblasts. Numerous nuclei of the nucleated red corpuscles show karyokinetic figures.

The case I want to report in this paper was referred to me for a blood examination by Dr. W. S. Christopher to whom I am much indebted for the following history:

August 12, 1902, A. R., female, born April 18, 1901. Received the breast for the first two months of life, however, never exclusively; was weaned when two months old; received condensed milk for four months; then malted milk which was sterilized during the warm weather, but not through the next winter. Gets now a mixture of cream, 12 ounces; milk, 4 ounces; water, 20 ounces; sugar of milk 12 1-2 drachms. The child was well formed at birth. The growth was satisfactory, but slow until August, 1901; since then it became very unsatisfactory. The appetite variable, stools rather often diarrhoeal, then very offensive in smell, marked constipation at times. Dentition began at 10 months, now has five teeth. The child neither walks nor talks; has never had croup or convulsions; skin action very free, especially on the

head, slight facial eczema, also head rashes. The infantile strength is poor, the child cannot turn over alone. Mucous membranes now normal; child has had occasional colds with fevers. The urine is generally high colored and stains the linen; however no chafing. Sleep poor, child restless, however, no night terrors. Mother thinks child has fever much of the time. Activity of the child below normal: mind O. K.; circulation occasionally poor. According to the mother's statement the child developed diarrhoeal bowel trouble about a year ago; since then child has been puny. At present the child has a very large abdomen which contains a tumor in left side, evidently the spleen. This tumor extends three inches below the ribs and well towards the median line; colonic tympanites passes under the tumor (the child has at present a putrid diarrhoea); liver slightly enlarged extends one inch below the ribs. Cervical and inguinal glands enlarged but not very much; muscles very flabby; parietal bones enlarged; ribs beaded; spine rachitic; kyphotic; wrists broadened.

Diagnosis: Rickets.

Ord. - 1 - 2 - 3 - (oatmeal) sterilized orange juice 1-2 oz. daily; beef juice twice daily; phosphorous gr. 1-128 t. i. d.

Examination of the Blood:

The examination of the blood of the child gave the following values:

Haemoglobin	55%
No. of red corpuscles 2,476,000	
No. of white corpuscles	29,500
Proportion of white to red....	1:84
Color index	1, ii
Differential count:	
Small mononuclear leucocytes.	40.0
Large mononuclear leucocytes.	13.50
Neutrophile Polynuclear	43.0
Eosinophilies	0.5
Transitionals	3.0
	100.%

Among the red corpuscles we find poikilocytes, microcytes, normoblasts and megaloblasts. The nucleated corpuscles are present to a moderate extent about 1 nucleated corpuscle to every 4-500 red corpuscles or about 5000 in each cbmm. of blood. Many of the nucleated red corpuscles show karyokinetic figures.

The little patient after the examination in August, 1902, was subjected to the medication and diet prescribed by Dr. W. S. Christopher and on April 1, 1903, Dr. B. W. Pratt, Goodland, Ind., the family physician upon my inquiries reported that the child had fully recovered.

The history of this case, the general anatomical and the blood findings, the complication with rachitis and the favorable termination stamp it as a typical example of the condition which Jaksch has first described as anaemic infantum pseudoleukaemica.

Discussion.

I. A. Abt, Chicago:—This, perhaps, is one of the most interesting fields of investigation in the whole domain of children's diseases, and, as Dr. Herzog intimated, also one of the most difficult. The subject of the chronic anemias of infancy is too little understood. As Dr. Herzog said most of these anemias are associated with rickets; that is, they are associated with nutritional disorders. The question is whether or not these rachitic symptoms may not be intoxications depending on some toxic products that produce rickets. For instance, having an intense anemia with only moderate splenic enlargement in the rachitic process. We know, too, that not infrequently we have extensive lymph node enlargement associated with rickets.

The designation "pseudoleukaemica infantum" of von Jaksch has been questioned. Monti and Bergren have rather been inclined to dispense with that term altogether and have made classifications which, perhaps, cover a larger group of cases; in fact, cover all of the anemias which occur in childhood. They say that these chronic anemias may be mild, with leucocytosis or without leucocytosis. And then they have a severe group, a grave group, which they call grave anemias; an anemia with leucocytosis or without leucocytosis. They evidently resorted to such a classification as this after a very extensive study of these cases of anemia. They found that there was a great difference in the blood findings and the clinical course. Some got well in a short time under treatment; some remained sick for a long time, running a chronic course; and a number of them died. So they felt inclined to do away entirely with the somewhat narrow classification of von Jaksch; this pseudoleukaemia infantum of von Jaksch.

So far as leukemia in childhood is concerned, but few cases of true leukaemia have been reported, and there may be a possibility, as Dr. Herzog said in his paper, that the more severe forms of pseudoleukaemia that have been reported as occuring in childhood may have been true cases of leukaemia.

Dr. Herzog, (closing the discussion):—I want to mention one point in connection with splenic anemias. In those conditions the im-

portance of classification lies particularly in the fact that it influences the prognosis and the therapy. When I looked up the subject of splenic anemia about two years ago I found that in nineteen cases the spleen had been removed by operation. It is a well-known fact that when you remove the spleen in true leukaemia you kill the patient; that is, you cut short his life. But when you remove the spleen in cases of splenic anemia it appears that you are probably doing that one thing which will cure your patient. At the time when I went over the literature of this subject the spleen had been removed in nineteen cases of splenic anemia. In one case there was no record of the outcome. In fourteen there was a record of recovery.

This is of course a very good percentage of recoveries. But this good result is only to be expected in splenic anaemia (which also is met in children). In anaemia infantum pseudoleukaemica the prognosis is good anyhow and we do of course not want to remove the spleen. The important point is therefore to make the correct differential diagnosis. It is really immaterial whether we look upon anaemia infantum pseudoleukaemica as a primary or as a secondary disease.

TUBERCULOSIS OF THE VESTIBULE OF THE EXTERNAL GENITALS IN WOMEN.*

BY J. H. STEALY, M. D., FREEPORT.

The reported cases of tubercular diseases of the Vestibule are very few, up to 1898, but three having been reported, as stated by Kelly. A diligent search of the literature at my disposal has failed to reveal further cases, and as a matter of scientific interest to you as well as one of practical moment, I shall undertake to briefly review a case which presented itself to me some months ago, and which I have considered to be of sufficient general interest to present to you. Interesting in view of its rarity, and also in that it may occur that we may have the difficulty of a differential diagnosis between this condition and various other ulcerative processes about the vulva to consider. As to its frequency of occurrence, I may say that in this, as in other diseases, the recorded cases are probably a comparatively small per cent of the actual cases which come into the hands of the surgeon. This is illustrated by the fact that I have had reported to me by correspondence, six additional cases, out of a relatively small number of observers communicated with. What seems rather remarkable is the fact that these six cases are divided among only three observers, which suggests the thought that the curette and the microscope are not sufficiently used in diagnosing the ulcers of this region. There are three cases reported of extension of a tubercular process from the vagina to the vestibule, by Deschampy, Chiari and Zweigebaum and not, strictly speaking, cases of vestibular disease, but rather the extension by continuity of tuberculosis located elsewhere. Out of some 10,300 gynecological cases in John Hopkins Hospital, as Dr. Kelly informs me, no case of vestibular tuberculosis has ever been presented, although he records one case seen by him, in a patient 55 years old, whose only complaint was that of burning pain following micturation. Upon examination it was found that a single isolated ulcer occupied the whole area of the vestibule not however extending posterior to the urethral opening. He does not state whether it was primary or secondary to a tubercular focus elsewhere, but intimated that it was secondary to pulmonary disease. There are, here and there, recorded instances of a primary focus of tuberculosis in the genitals in general, but the number of such is comparatively small. And the experience that I have had in my case, as you will see, suggests to me the thought that, even more rarely than the records show, is tuberculosis primary in the regions of the genito-urinary system in both sexes. This paucity of primary cases will account for the uniformly unfavorable prognostic light in which genital tuberculosis is viewed regardless of type.

It is generally conceded, I believe, that the gravity of a metastatic process is in no wise dependent upon the size or gravity of the primary lesion, and it is thus conceivable that under certain circumstances even where granted the opportunity of an autopsy, it may be doubtful whether we have a primary or secondary form to deal with. For often, owing to local conditions, the metastatic lesion may far outgrow its progenitor, and the original lesion early become healed leaving but small trace of its existence behind.

We do not pretend at the present day, to

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say that we can invariably definitely locate a diseased focus in any portion of the lung or internal organs by the physical methods now in reach, and to state that such a process is primary because by our senses we are not able to locate other points of invasion, is to my mind, absurd. I desire to call your attention to the fact inasmuch as here, in genital tuberculosis we have a disease which elsewise, if not viewed as secondary, is unaccountably unfavorable in its course, regardless of the extent of its inroads at the time of observation, and the question of type of lesion, whether primary or secondary, bears heavily upon the question of prognosis. And I consider that the only means at our command in determining this question is by the administration of a diagnostic injection of Tuberculin, subsequent to the total extirpation of the diseased regions. In my case, after repeated examinations I was forced to the belief that this was truly a case of primary disease, and yet, some months following the operation, an injection of Tuberculin induced a most decided temperature reaction. And somewhat later I was able to make out a small area in the lower lobe of the left lung, in which I obtained slight shading of the percussion tone, subcrepitant rales, prolonged expiratory sounds and bronchophony, which findings led me naturally, to alter my former opinion and to consider this case too, a secondary one.

As to the reported and recorded cases, no definite after history is obtainable; so that I am not able to state whether other cases ran a course similar to mine in developing later the physical aspects of a hitherto concealed focus of disease. Here we have a case of an apparently local tuberculosis, in a well nourished and otherwise healthy appearing individual with no evidence of other lesions, yet after undergoing operation, developing the latent primary focus. In her case I believe the indication clear as to the operation even had I known it to be a secondary case, in order to relieve her condition, but when the question amounts to one of a hysterectomy or a castration or some similar procedure undertaken merely because we recognize the presence of disease, we should take great care indeed, to assure ourselves that it will not prove a useless undertaking nor a deleterious one as well.

Mrs. S., of German nativity, married some three months. Her father died of malignant growth of neck, and a cousin with whom she had been associated some years, had a fatal pulmonary tuberculosis. Her husband, a robust German, gave no history of venereal disease, nor of tuberculosis and appeared normal in all ways. Seven months previous to my seeing the patient she had been ill, as she says, with blood poisoning, though no history or evidence of the atrium of infection was found. Her previous operations were limited to an excision, some ten years previous, of a portion of this same lesion, by one of the Staff of the Elizabethan Krankenhausen of Berlin, which was done, she thinks, by cautery. Her general condition was good. Morning temperature of 99 and evening temperature 99 to 100; pulse very irritable, ranging from 100 to 120. The lymphatic system was normal; thoracic and abdominal examination revealed nothing; the blood showed a hemaglobin of 79%; a leucopenia of 4300 and normal percentages, and an erythrocyte count of 4000100. The urine showed no deviations and no results were obtained in a rabbit inoculation of the same.

Her present trouble dates from one year following an injury in the perineum caused by falling astride the rung of a ladder. This injury was attended to by some local physician in a small town in Germany, who found it necessary to take a number of stitches in the wound resulting. She comes to me now with the sole complaint that her trouble interferes with her marital relations, and this seems to be the only subjective symptom. Upon examination I found situated in the whole area of the vestibule a ragged ulcer, extending from 8 decimeters caudad to the clitoris through the whole length of the vestibule and extending one centimeter upon the anterior wall of the vagina. Laterally it had involved the major portions of the nymphae, leaving but the external bases of both, and thus forming an excavation somewhat rectangular in outline 5.5 centimeters long and 3.5 centimeters wide. The edges were ragged and undermined, and the base of the ulcer, of an apple jelly color, had about ten distinct

miliary tubercules upon it. The urethra projected from the center of the diseased tissue, and had externally about 1-2 centimeter of healthy mucous membrane about its orifice. The surrounding tissues of a bluish tinge were but slightly infiltrated; over the right tuber ischii was a patch of leucoderma. A curetted specimen from the base of the lesion showed the B. Tuberculosis in small numbers, and a snip of the tissue inoculated upon the perineum of a rabbit, in 17 days resulted in a localized tuberculosis of the animal giving the B. Tuberculosis in fair numbers in the stained specimen and in smears.

Operation: Beginning one centimeter above the clitoris, an incision was made down and out, including all of the nymphae and a portion of the labia of the vulva, extending down till opposite the center of the vagina, then extending sharply in and through the anterior wall of the vagina. The included tissues were then dissected off of the pubic bone, including the entire clitoris and the urethra was cut through 1.5 centimeters from the meatus and removed. A flap of mucous membrane was now removed from the deep anterior lateral wall of the vagina, swung around and stitched to the anterior edges of the severed urethra. The cut edges were now drawn together and at the lower angle of the wound above the urethra were stitched to its raw edge! A permanent catheter was inserted and left for three days, the bladder being irrigated twice daily with a neutral solution. The patient went into severe shock following the operation, which continued for about eight hours. The stitches were removed in eight days, leaving a very firm and comparatively sightly union, and on the twenty-third day the patient was discharged.

Discussion.

Paul Owsley, Chicago: Mr. Chairman. Tuberculosis of the vestibule of the female genitalia is a rare condition, very little discussed, although tuberculosis occurs in almost every region of the body. Perhaps its infrequency is due to the secretions. Tuberculosis occurs more frequently in the intestines than in the stomach, which has an acid secretion. Rarity of tuberculosis in the vagina may be due to the vaginal secretions. These secretions are often changed, and where this organ with changed secretions is infected by tubercle bacilli, the disease might develop. Vaginal tuberculosis resembles lupus in that it is tuberculosis of stratified epithelium. Recently, in cases of lupus the treatment by the X-Ray has been found of great benefit; in fact, it is perhaps one of the most hopeful of the X-Ray subjects for treatment. In a case like this it might be possible to find the X-Ray of value before resorting to surgical procedure. Of course, where there is urethral involvement, it is a question whether scar tissue following X-Ray treatment might not cause structure which would later require operation.

Dr. Stealy (closing the discussion): It would seem in this case very much as though the origin of the trouble may have resulted after the trauma she received, and she may have had some infection introduced by the physician who attended her the first time. He had used a number of stitches, and it is possible she may have become infected. She had a relative who died from pulmonary tuberculosis.

I would like to ask the speaker (Dr. Owsley) what X-Ray machine he uses. I have tried the X-Ray in a number of cases, probably in a hundred cases, of malignant growths, and not a few cases of tuberculosis of the skin or lupus, and I have still some of them under treatment. But I have yet to have the first case that has been cured by it.

In looking up the history of these cases, as usually given, tuberculosis of the skin is called lupus. That is the way it is classified, and tuberculosis beginning on mucous surfaces we usually call tuberculosis. The number of cases given in the literature are certainly very few, and it is a rare condition.

TREATMENT AND CAUSE OF DEATH IN PLACENTA PREVIA.*

BY P. M. BURKE, M. D., LA SALLE.

The subject of placenta praevia is one of the most interesting, important and tragic in the whole field of medicine. The treatment rests in a recognition of the causes which in fatal cases produce death of the mother. I shall first direct attention to the salient points in the history of nine (9) cases, secondly the cause of death in the fatal cases, and finally the treatment which is naturally suggested by the operation of this cause. These cases are not presented with the expectation of comparing favorably with the statistics of lying in institutions where cases are seen early and can be more safely managed. These were treated under the difficult, trying and unfavorable circumstances which fall to the lot of the general practitioner.

Case 1. Mrs. H., age 42, eighth child. Was called in consultation with Dr. Coutant,

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the attending physician and Dr. B. Z. Aplington. The woman had reached full term. She had been losing more or less blood for six weeks previously. For some hours before we saw her she had fair labor pains and was flowing profusely. There were signs of collapse; rapid, small but regular pulse, extremities becoming cold. Vaginal examination revealed placenta praevia complete. The cervix was sufficiently dilated to easily admit the entire hand. Turning was agreed upon. I introduced my hand up along the edge of the placenta into the uterus, ruptured the membranes, and grasping a foot and drawing it down delivery was completed somewhat precipitately, as it was a desperate case and no time could be lost. The child was dead. On removing the placenta coils of intestine were found in the vagina indicating extensive rupture of the uterus. Profound collapse followed and she died in twenty minutes.

Case 2. Mrs. T., age 35, sixth child. A strong robust woman. Was called far into the country to see her without having any intimation of the cause of her trouble. Found her having strong and rapid labor pains and losing much blood. There was complete placenta praevia. The cervix easily admitted four fingers. She had a strong pulse. I had no help except the husband and a neighboring woman, and there was no time to secure medical aid. The surroundings were not sanitary. Fortunately I had plenty of chloroform in my satchel. Administered chloroform. Made greater dilatation of the cervix with fingers and delivered a living child. Placenta was removed soon after. There was quite a good deal of flowing after delivery. Her pulse was 130, slight collapse. I remained several hours with her and when I left the pulse was still 100 but strong and good, and her general condition seemed excellent. I did not think of rupture of the womb. I felt elated at saving the child and presumably also the mother. I thought the temporary unfavorable condition of the mother due to the shock of the operation. Next morning her general condition was excellent, but pulse was still 90. Feeling that everything might not have been done aseptically the day before, as I had to aid in giving chloroform in addition to performing version, I gave a 1 to 5000 vaginal douche. On injecting about a pint of the fluid she suddenly cried out with intense pain. Vaginal examination revealed extensive rupture of the uterus. She died in three days of general peritonitis.

Case 3. Mrs. D., age 41, fifth child. Complete placenta praevia in all respects same as case 2. Dr. B. Z. Applington was the medical attendant. I administered chloroform. He performed version. Child dead and mother died in five minutes. There was rupture of the uterus.

Case 4. Mrs. B., age 38, fourth child. Placenta praevia lateralis, full term, moderate loss of blood, feeble pains. Tampon of vagina and cervix very tight. In four hours the packing was expelled, good pains and dilation complete. Intra-uterine turning, brought down a foot and proceeding with great slowness and care afterwards delivered a living child. Mother had a good recovery.

Case 5 as Case 4.

Case 6. Mrs. C., complete case of placenta praevia, fifth child. Full term. Intra-uterine turning, child alive, mother recovered.

Case 7. Seven and one-half months gestation, considerable flowing, no expulsive pains, tamponing for 12 hours, then removal of packing, cleansing of parts, some dilatation; ruptured the membranes and packed for four hours. Intra-uterine turning. Child alive. Mother recovered.

Case 8 as Case 4.

Case 9. Strong Austrian woman, 38 years old, fifth child. Full term, placenta praevia lateralis. History of much bleeding for six hours before I saw her. An intelligent midwife sent for me stating the nature of the case. At the time I was at dinner with Dr. R. Herrick and Dr. T. Gillespie. Fully prepared for any emergency we soon reached the bedside.

The case was urgent, fair pains and much flowing, pulse 100 and somewhat weak. I introduced three fingers easily into the cervix. Dilating with the greatest care I soon introduced four fingers. Continuing although with greatest care very slowly to

dilate with the four fingers, I suddenly felt the cervical ring give way. It had ruptured up about two inches. On removing the placenta I found extensive left lateral rupture of the uterus and of the roof of the vagina. Marked collapse. Introducing my hand high up I succeeded in grasping the edges of the rent and controlling the hemorrhage. My assistants introduced saline solution per rectum and subcutaneously. Nitroglycerin strychnia and digitalin tablets 2 hyperdermatically, while I held the womb which was utterly paralyzed. A vulsellum forceps was introduced, the cervix grasped and the uterus pulled down to the utmost degree. With great difficulty 12 strong catgut sutures were inserted and the wound was repaired to my full satisfaction. Packing was applied through the vaginal rent along the uterine tear which packing was removed in 48 hours. The woman made a slow but good recovery. The child was delivered alive, but owing to inattention which was unavoidable it died soon after birth.

A summary as regards results shows four complete cases and five incomplete ones. Three deaths of mother and six recoveries. Seven children delivered alive and two dead. In the first three cases, which proved fatal, the delivery after bringing down the foot, was too precipitate, and that experience suggested the greatest care and slowness in the delivery of the subsequent cases.

Three out of the four cases of rupture died. All of the cases without rupture recovered. Nine cases are not many, but I believe that they are sufficiently numerous to represent the dangers which we may expect to meet in any given number of cases of placenta praevia. In about 1,000 cases of obstetrics which came under my care, in which it was necessary to do many versions attended also with preliminary dilatation, I never had a case of rupture, never had a case of sepsis or death in those versions, but in nine cases of placenta praevia involving the same steps in order to empty the womb four ruptures occurred. This experience proves that while rupture may occur in other cases that the tendency to do so in placenta praevia is very great, indeed, so great is this tendency in some cases that it is perhaps impossible to avoid the occurrence of rupture. I believe the deaths in placenta praevia that are ascribed to sepsis are mainly due to an undetected rupture, not great enough to cause rapid death but sufficient to produce some leakage into the abdominal cavity and to present a surface for the absorption of septic material that causes death. As regards anaemia this causation of death *per se* may be excluded, if a competent physician is called in time. What I wish to emphasize is that sepsis and anaemia are comparatively controllable factors in the causation of death, but on account of the friable, to a certain extent degenerated condition of the lower portion of the womb rupture in some cases by version is absolutely unavoidable. To keep this in mind, to do everything at every step according to medical, surgical and obstetrical principles to prevent this rupture is the key to the treatment of placenta praevia.

The treatment manifestly consists in emptying the womb as soon as the condition is discovered unless the child is not viable, when operative procedure should be delayed until the seventh or eighth month of gestation, which can be done without danger. The means to this end are version or caesarean section. Version although attended with the dangers I have stated has universal support in the treatment of these cases. The forms of version are Braxton Hicks method and the intra-uterine method. Braxton Hicks method consists in the introduction of two fingers into the cervix and the aid of the other hand externally over the abdomen. The intra-uterine method consists in the introduction of the entire hand into the womb after a preliminary dilatation of the cervix by the fingers or other mechanical procedures. Braxton Hicks method would theoretically seem an ideal one, as it avoids preliminary dilation of the cervix, avoids possible dangers from introducing the entire hand into the uterus and enables the cervix to be dilated by the leg which is pulled through it. However, its use is limited: It cannot be used after rupture of the membranes. It cannot be used in cases of complete placenta praevia, as the thick placenta forms a barrier to our free operation when you go above the edge of the placenta, the position is so high

that you cannot manipulate with two fingers. You are obstructed by the placental portion which you have separated and you are also threatened with the danger of hemorrhage from the surfaces which you have exposed. It is necessary in complete cases after you have separated the placenta to go quickly after the foot and bring it down in order to stop hemorrhage and this you can only do by introducing the entire hand. Furthermore the performance of Braxton Hicks method in many ordinary cases is extremely difficult, if not impossible. In a large abdomen and a large uterus with a great quantity of amniotic fluid, theoretically at least, it would seem easy, but generally there is not a great quantity of fluid and what there is is in the dependent part of the womb, the upper part of which tightly grasps the child. On account of this and the thickness of the abdominal and uterine walls external manipulation of one hand with the assistance of two fingers of the other hand in the cervix is very often utterly powerless to accomplish podalic version. On the other hand in the intra-uterine method it is claimed that the preliminary dilatation may rupture the cervix. In case No. 9 where rupture of the cervix occurred so easily during preliminary dilatation it is fair to assume that if the Braxton Hicks method had been successfully performed that the cervix could not have withstood intact the passage of the body and certainly not that of the head, and therefore the situation would not have been improved.

If one can use Braxton Hicks method successfully it should be adopted; but if he cannot do so he should not feel that the case is seriously jeopardized by adopting the intra-uterine method, as the chief strain comes from the passage of the body and head, which causes rupture of the womb, which above all things is to be dreaded.

The critical point is when one foot has passed through the cervix after turning into the vagina. The leg acts as a plug upon which slight traction can be used for a long time without taking the body of the child from the uterus. In this way the breech can be kept in the grasp of the cervix which it effectually dilates, and also prevents bleeding. In order to prevent the pains now from too quickly expelling the entire body it is well to leave one lower extremity remain in the womb for a considerable time. To avoid a precipitate delivery should be the chief care of the medical attendant. The cord being still *in utero* the life of the child as well as that of the mother is by delay at this stage fully safeguarded.

The subsequent conduct of the case may be left to nature or should be managed with great care. In complete cases, in turning, the hand should be introduced up along the placental edge at any point, but not through the placenta, as in the latter case the head will pull down the placental tissue around it increasing the diameter of the mass that must pass through the uterine outlet and thereby adds greatly to the danger.

Tamponing the vagina and cervix tightly in any form of placenta praevia at any stage, unless the bleeding is so great as to threaten death by delay, is a most valuable factor in the treatment. Caesarean Section in complete cases is justifiable, and I believe the results in the hands of a skilled operator will at least be equal to that of version, if the condition has been early discovered and the patient has not lost too much blood or has not been exposed to the possibility of sepsis through frequent vaginal examinations.

In case of rupture the rent and the uterus should be tamponed, or if any hope of success suggests itself one should attempt the prompt, heroic and skillful repair of the injury.

Discussion.

Charles S. Bacon, Chicago. Mr. Chairman. I think it is very good of Dr. Burke to present these cases, inasmuch as they are interesting and instructive, but I believe that the conclusions drawn by him are not quite definite and positive enough. Experience has shown the great danger of forcible dilatation of the cervix and from extraction of the child shortly after turning, and these dangers should be emphasized and the rules of procedure should involve the absolute prohibition of these practices. One gets the impression that the deaths in two of the fatal cases were due to the rapid extraction of the child, and the danger in the last case was from the forcible dilatation of the uterus. There has been a good deal of objection to the tampon in the management of placenta praevia, but on account of the danger of rapid forcible dilatation of the uterus I believe that, if one has poor surroundings for immediate work, it is

desirable to tampon, if the uterus is only very slightly dilated. The aseptic tampon, firmly applied, will stop the bleeding, will allow some dilatation, and will allow one to make the preparation for a satisfactory turning; then, when the turning is prepared for, dilatation should be carried simply far enough to introduce the two fingers into the uterus. I do not believe the difficulties in the Braxton Hicks turning are so great that they cannot be overcome, but with the patient well anaesthetized, with assistance provided for, if one can choose his time, turning can be done, and then the case should be left entirely to nature, with only so much traction as prevents the hemorrhage, and it should make absolutely no difference what the condition of the child is. The extraction should not under any circumstances be forced. With positive, definite rules, I believe that many cases of rupture of the uterus and death in the management of placenta praevia can be prevented. I think it is perhaps desirable that the new methods of treatment, by means of the metreurynter, should not be advocated for general use, because of the considerably greater difficulty in carrying them out, although in hospitals they can be adopted.

Rudolph W. Holmes, Chicago. The cause of so many deaths from placenta praevia is undoubtedly largely due to the methods used by the men in turning, and then in extracting. One of the most fruitful sources of mortality, to my mind, is the rapid extraction through a partially dilated os. I think there are two general principles or methods of treating placenta praevia. One that is appropriate for the general practitioner, who meets with three or four cases of placenta praevia in a life time. The other way is suitable for those engaged in obstetric practice, and who frequently meet with cases of ante-partum hemorrhage. Now, I do not believe the tampon is the method to be elected by the obstetrician, but for the general practitioner I think a well applied tampon will give the best results. The tampon should be introduced; at the end of twelve hours it should be removed, if the woman is having strong pains. If the tampon is removed, everything should be ready for retamponnade, or for immediate operation. If the os is sufficiently dilated for the hand to pass, the hand should be introduced and version done. If the os is insufficiently dilated, the tampon should be reintroduced, and we should wait, say, for twelve hours, until approximate dilatation is secured, and do the version: it is far better to leave the case to a spontaneous expulsion than rapid extraction. A tape may be attached to the leg of the baby, if it be dead: the operator may then pull upon this tape from time to time, or may pass the tape over the foot of the bed, and suspend to the end a weight of two to three pounds: under the stimulus of the breech pressing upon the cervix spontaneous expulsion will be accelerated. For the man largely engaged in obstetrics, the tampon is not the best method, for the mortality from its use is higher for both mother and child: for such a man wider experience makes him more skilled in obstetric manipulations, so he is better prepared to undertake the more difficult procedures which vouchsafe better results to mother and child. If the os is sufficiently dilated to admit two fingers, Hicks' version offers very good results for the mother, and fair prospects for the child. There are often potential difficulties in doing Hicks' version: the abdomen may be thick: the uterus may be unduly active—fortunately rare at the time when the operation may be carried out in placenta praevia: the membranes may rupture prematurely which may seriously compromise the technique at unskilled hands, for it does require considerable skill to perform the Hicks' operation, especially in the presence of a disconcerting hemorrhage. There is another way, which is by far the safest for the mother and baby, and that is inserting a Braun or a DeRibes bag within the uterus when the os is dilated sufficiently to permit it, that is it comes into direct concurrence with Hicks' version. When the os is practically completely dilated the character of the pains, type of the cry, and bearing down will offer premonition that the bag is about to be expelled: at this period everything should be prepared for operation, as the bag slips out the operator passes the hand in the vagina, ruptures the membranes if they have not already been ruptured, and does an internal version and then a slow extraction.

Caesarean section ought never to be done in cases of placenta praevia unless there is positive indication on the part of the rigid, or cicatrical soft parts, an exceedingly rare complication in placenta praevia, or on the part of the contracted pelvis, as the mortality from such interventions is worse than a series of badly handled cases.

There is one other point I would like to speak of, and it is this, that bichloride of mercury has been the cause of more harm in obstetrics than any other one agent. As long ago as the time when Lister was introducing antiseptics, he pointed out the pernicious effects of bichloride of mercury in the presence of blood, pus or serum. He showed that it is inert: it is precipitated: is slowly absorbed, and produces mercurial poisoning; therefore, it has no place whatever in obstetrics. Bichloride of mercury is one of the most innocuous clinical antiseptic, unless the man who is using it scrubs his hands vigorously with a brush; that is, you can put your hand in bichloride of mercury solution and keep it there for a long time, and the surface of the hand is simply smeared over with albuminate of mercury. There is little or no penetration beyond that coating of the mercurial deposit. As soon as you begin to manipulate the hand, the coating is broken, and the septic surface of the hand is exposed.

J. Clarence Webster, Chicago: The statistics given us by Dr. Burke are rather startling. Of course, it is always difficult to criticize reports of cases when one has not been in contact with them, but I wish to state that if they are given as an indication of what must be expected in the treatment of placenta praevia, it were better that the paper had not been read here. I have never known rupture of the uterine body as cause of death in cases of placenta praevia treated by the best modern methods. This remark applies to a hospital experience in Germany, Scotland and America.

As to the causes of rupture, I do not intend

to go into them, because the Doctor has well described them. I am surprised that he shows such disrespect for the Braxton Hicks method. He has given a false estimate of the position which that operation holds in obstetrics. I have never experienced the difficulties that he has described in performing a Braxton Hicks version, in either lateral or central placenta praevia under the proper conditions.

I would criticize his statement that the Braxton Hicks method cannot be carried out in a case of central placenta praevia. If the essayist would investigate the procedure, he would find the indication in central placenta praevia is to perforate the chorionic tissue of the placenta until the amnion is reached. Then, through the amnion carry out the maneuver just as one would through the membranes in a case of lateral placenta praevia. The procedure described by him of forcible dilatation and introduction of the hand should be condemned, as it is liable to cause rupture of the uterus.

I do not recall any case I have seen in which there has been a rupture of the uterus from the use of the tampon properly applied. If slight rupture has occurred, the careful application of gauze is valuable, serving as a mechanical stimulus to the uterine musculature as helping to prevent descent of the intestine into the uterus.

If a tamponade is carried out as a surgical procedure, the danger is reduced to a minimum. The patient should be exposed in the lithotomy posture. The vulva must be opened by specula, and the cervix held by a vulsella. The assistant should steady the fundus of the uterus through the abdominal wall, while a long strip of gauze is introduced so as to occupy the entire genital canal. In every placenta praevia case this procedure should follow delivery, in order that the patient's welfare may be safeguarded.

Charles S. Bacon, Chicago. May I be allowed to say, Mr. Chairman, to Dr. Webster, who was not here at the time, and for fear that he and others may get a wrong idea of my conclusions, that I advocate the use of the tampon in placenta praevia? That is the indication. My objection was to its indiscriminate use in all cases of hemorrhage.

Daniel T. Nelson, Chicago. If there is any type of cases that will cause a physician's hair to turn gray, it seems to me it is his early cases of placenta praevia. Perhaps no more so, however, than his cases of eclampsia, that he knew nothing about, nor had any warning of. I well remember my first case of placenta praevia, and while I know there was not a rupture through the peritoneum, there was a rupture of the cervix, and of the body of the uterus for a considerable distance up, but fortunately there was none of the peritoneum, and the patient recovered without the latter day antiseptic procedures.

What I rose to speak of was how to prevent some of these ruptures. We all know that the cervix is a circle, and that if the dilating body is a corresponding circle in its outline, it is not as likely to rupture unless it is weaker on one side than on the other, as in the case of a placenta attached only to one side. In other words, if it is only partial then, of course, that is the weaker side. If it is central, then the body that is outlined as a circle will dilate evenly and the cervix probably will not rupture. But how is the descending body to be kept a circle? That is my point. And that is why I was in trouble with my first case. I did not know enough then to keep the hands in this position (indicating), extended over the head, as was so well taught by one of our old obstetricians, Dr. John Bartlett. One of the hands came down in this position, with the hand under the chin instead of behind the occiput, or, in other words, the elbow was projecting at a sharp angle against the cervix where it was tender, and it simply tore right through. By keeping the elbow in its proper position, with the hands behind the occiput in the after coming head and the arms extended, (this can be attended to while you are looking for the foot) and this complication can be avoided again, do not do as I did in another case. Reaching for one foot, I seized it, but it did not come readily, but the other would more readily, and I left the first knee in this position (illustrating), flexed while the other came down, and it caused a similar trouble for me. But this was soon remedied, immediately after, by an operation which the Doctor has described of immediately uniting with sutures the torn tissues.

Gustav Kolischer, Chicago. Any man who reads a paper before this Society in which he relates his failures as well as his successes in obstetrics deserves credit, and we are therefore indebted to Dr. Burke for his paper.

I do not think there is much left to be said. We should express ourselves positively, not only as to what to do, but in regard to what we ought not to do in the class of cases under discussion. **First,** one should not resort to so-called digital or manual dilatation in obstetrics, whether in cases of placenta praevia or not. **Second,** one should not force extractions. The idea brought out, for instance, that in cases of placenta praevia one of our duties is to empty the uterus as quickly as possible is wrong. We should endeavor to check hemorrhage as quickly as possible, and prevent its recurrence, but there is no need of emptying the uterus at once. In cases of placenta praevia the cervix is not degenerated, but permeated and surrounded by venous blood vessels, as in cases of pregnancy. If pregnancy begins around the cervix at the junction of the uterine body, a circle of blood vessels is formed, which is the theory given of placenta praevia. Great care should be exercised in attempting version where rupture may occur, or has occurred. The use of irrigations or flushings in these cases is based on a misunderstanding of the conditions. Let us think for a moment. If we infect a uterus to-day, we disinfect it to-morrow, and it is simply nonsense to talk about injecting a pregnant uterus, because we incur the danger of ballooning it and causing rupture. If there is a subperitoneal rupture, we may rupture the peritoneum which still separates the uterine cavity from the peritoneal cavity.

As to the use of bichloride of mercury, we should not use it in obstetrics. That is one of the principles of obstetric teaching. No one is more susceptible to bichloride poisoning than a woman after she has been confined.

Dr. Burke (closing the discussion): I only have a few words to say in closing the discussion, and I shall try to be as practical as possible. In the first place, I would like to ask Dr. Webster how many cases of placenta praevia, personally he has treated? He is a distinguished obstetrician, and undoubtedly he has had considerable experience in that line.

Dr. Webster: I could not tell you, Doctor, at this moment.

Dr. Burke: I have tried to be perfectly candid in writing this paper, and the keynote of the whole paper is, in cases of placenta praevia, the danger consists in rupture of the uterus. I simply wanted to present candidly a history of my cases without any vanity, to compare favorably with the statistics of lying-in institutions. I presented the question in a candid way, to show how terrible these cases are.

Another thing. I handled these first three cases twenty years ago, and we must remember at that time how studies in medicine and surgery were not so far advanced. A great surgeon about that time, eighteen years ago, said, "I do not think it is possible for surgery to advance any further." But it has.

Our early experience is associated with a wonderful lot of inexperience, and it is on account of that I have presented to you the dangers connected with these cases when things are done precipitately.

So far as drawing and presenting conclusions is concerned, I remember at a medical meeting of hearing a man report 202 cases of diphtheria. This was about fifteen years ago, when there was no antitoxin, and he saved 200 patients out of 202. Other practitioners lost 25 per cent of their cases. This practitioner remembered very vividly the 200 cases he had saved, but he could remember only two patients that had died. There is a good deal of that in statistics.

Another thing about placenta praevia. It is awfully hard, as anybody knows who has had such cases to deal with and death occurs, to tell what was the cause of death. When we have a rupture of the uterus, the organ is utterly paralyzed, and we may have a sudden gush of blood which causes death. In nearly all cases when this occurs it is rupture that the cause of death, and I simply state this, so that it can be avoided, if possible.

THE SECONDARY RESULTS OF CARDIAC DISEASE.*

BY JOHN A. ROBISON, A. M., M. D., CHICAGO.

It is a comparatively simple procedure to diagnose the primary lesions in organic heart disease so far as locating the lesions and determining their nature is concerned, but it is more difficult to trace the effects of these lesions by their secondary results and base a prognosis upon the effects. We know that structural heart changes produce various effects upon the circulation according to the nature of the structural change, the heart tissue affected, and the degree of departure from normal. We know also that the secondary effects of these changes will make their appearance in a certain well defined order and that the "vicious circle" of disturbed heart action will be established according to the initial point of the lesion, the severity of the damage done to the heart, and the rapidity with which the heart loses its nutrition and dynamic force.

Our duty as diagnosticians and therapeutists, therefore, has only begun when we have completed our physical diagnosis of the patient. It is our further duty to follow the clinical history of the case, and note the varying changes which belong to each individual case. In heart disease it appears to me that certain patients enjoy a degree of immunity to disastrous secondary effects, or more strictly speaking, predispose toward the maintenance of compensation. These individuals will disappoint us frequently when we prognose gloomily, and will often prove that we are poor prophets by living far beyond the time we have allotted them. Only night before last I was called in consultation to see a young girl aged sixteen whom I had seen six years previously in an attack of ruptured compensation, and there was at that time the *cor bovinum* and it seemed almost impossible for the patient to live many months, yet under appropriate treatment the patient has not only lived six years but has been able to enjoy life and go to school, and even now while the most extreme orthopnoea oppresses the little patient there is almost no oedema of the extremities, and the pulmonary circulation is fairly good.

In this paper I had intended to discuss the various stages of congestion which are the result of valvular and myocarditic disease, commencing with the pulmonary circuit, and following the stasis which ensues in the general circuit, resulting in engorgement of the pulmonary, digestive, renal and lymphatic systems, with the accompanying syndromes, but the program has already been long and you are all wearied, and I will spare you this infliction, and will ask you to listen

*Read at 53d Annual Meeting, Chicago, May 30, 1903

to the recital of a case which illustrates the march of clinical events in a case of valvular heart disease where compensation becomes ruptured, and there is in addition to the ordinary sum of clinical symptoms, one which is rare, that is a condition of hyperkeratosis of the legs. I find in the literature mention only of one case, and that was one by Thiory of Brussels reported in 1865 in the Med. Free Press.

In the history of the following case you will notice that the clinical symptoms kept equal pace with the degree of competency or incompetency of the heart.

The patient, Mrs. McK., aged forty years, married. I have known for several years and when I first made her acquaintance she was the picture of health, a woman of fine physique although somewhat too obese, with rosy cheeks and active in her movements.

About five years ago she consulted me complaining of shortness of breath on exercise, to my surprise I discovered she had mitral insufficiency and aortic insufficiency with an aortic direct murmur. There was some slight enlargement of the heart with accentuation in a slight degree of the second pulmonic sound. The urine was negative. The patient was advised as to diet, exercise and so forth, and was in apparently good health until two years ago when she was suddenly seized with violent headache, malaise, aching in the back and limbs, vomiting, pain in the precordial region and extreme shortness of the breath. She was confined to the bed three weeks. Shortly after this attack she noticed the limbs began to swell, and that there was a smaller amount of urine passed. The oedema of the limbs progressed and shortly her attending physician noticed the liver was enlarging rapidly and that there was some ascites. With the progress of the dropsy there was increasing difficulty of breathing until finally orthopnoea became permanent and for a period of thirteen months the patient sat is a chair being unable to lie down. This ascitic fluid was during this period twice removed and after the second paracentesis the legs ruptured spontaneously and began to drain very rapidly. They were cared for in the most approved manner but the patient suffered extremely from pain at the fissured points. In fact the pain was so severe that hypodermatic injections of morphine were resorted to and maintained for several months, and these injections had to be increased until finally the dose at each injection was one grain and a half. In other words morphinism was established. About one year ago there appeared at the site of the fissures a peculiar proliferative cell growth involving the horny layers of the skin. This growth rapidly extended around both legs and reached from the ankles to the knees. It was first somewhat soft, and later was hard diffuse and darkly discolored. In time it was so hard and contracting that it constricted the legs and obstructed the return circulation of the feet and caused them to be intensely swollen. There was contraction of the ham-string muscles and marked oedema over the back.

June 12, 1902, the patient entered the Presbyterian Hospital and the clinical examination was as follows: the patient is emaciated, the muscles are relaxed and flabby with exception of the ham-string muscles as already mentioned. The face was pale and anxious in expression, the lips and conjunctivae congested, and the eyes were dull and listless. The skin was negative with the exception it was shiney in the oedematous portions of the body, and there was the eruption on the legs as noted.

The pulse ranged from 60 to 72, and was intermittent, of small volume and there was high arterial tension. The respiratory murmur was normal with the exception of the region of the right side extending down from the eighth rib where the respiratory murmur was diminished and the percussion note was dull. The area of heart dullness extended laterally from one inch to the right of the sternum to the anterior border of the axillary fold on the left, vertically, from the second rib to the sixth intercostal space below, where the apex beat of the heart was found one inch to right of the axillary fold. The apex beat is diffused, feeble and irregular. On auscultation, the first sound of the heart is less intense than normal, higher pitched than normal, and accompanied by a long, soft blowing

murmur propagated to the left.

The second sound is higher pitched, especially the pulmonic second, and at the aortic area is accompanied by a harsh diastolic murmur, propagated slightly downward. There is also a murmur during systole at the base.

The outline of the liver is made out with difficulty on account of the ascites, but extends at least two inches below the costal border.

The patient is in a state of stupor owing to the morphine.

The amount of urine in twenty-four hours varied from 600 to 1200 c.c. There was a slight trace of serum albumen, with numerous hyaline, and a few granular casts, and an occasional fatty cast, many epithelial cells leucocytes and a few erythrocytes. Total solids, 39.14, urea, 2.1%, 12.6 grams in 24 hours.

At three periods during five months the patient was apparently on the verge of collapse and was momentarily expected to die, but each time rallied, until October 5, when she was tapped and 7000 c.c. of ascitic fluid removed from the abdomen. From this time until the patient was discharged November 11, she improved very rapidly, the ascites entirely disappeared and the legs became free from oedema. The skin lesions began to disappear, and gradually the patient was able to walk about with the aid of crutches. At the present writing the legs are free from eruption and the patient has continued to improve and the compensation of the heart has apparently become almost perfect.

The urine is free from evidence of secondary nephritis, the liver has lessened in bulk, the patient is bright mentally and is able to enjoy life.

The treatment consisted in first, overcoming the morphinism by the gradual reduction method, second, increasing the nutrition of the heart by rest, massage, diet and digitalis, third, removing the girdle-like hyperkeratotic lesions by the use of an oitment composed of thirty grains of salicylic acid to the ounce of vaseline the nurses carefully picking off the exfoliations with dressing forceps and applying moist boric dressings. The limbs were daily massaged and manipulated and the patient encouraged to use them as much as possible.

The points of interest are the reestablishment of cardiac compensation in a case apparently hopeless, and the peculiar form of skin lesion, which was free from any evidence of bacterial invasion.

COCKROACHES AS CONVEYORS OF TYPHOID INFECTION.*

BY ROSA ENGELMANN, M. D., CHICAGO.
Chicago Health Dept. Inspector; Asst. Clinic Prof. Pediatrics (Extra Mural) Rush Medical College (Chicago University.)

In the present trend of the bacterial genesis of disease, we have in a measure lost sight of vermin as tributary infection carriers. This is my excuse for presenting the history of a house epidemic of typhoid fever, that in the opinion of Dr. Edward Wells and myself was spread by cockroaches. I can find no other record of such portage in the literature.

Flies, mosquitoes, fleas, bedbugs and cockroaches belong to the same large family and order of insects. Some of these, the latter excepted have been shown to be not only accidental, but also active or intermediary hosts of various germs such as the Eberth bacillus and its allied germ bacillus pestis. Kitasato and other Japanese observers recently found that fleas and bedbugs are both accessory and active factors in the spread of the pest. Fleas, bedbugs and flies have long been discussed as transmitters of typhoid fever and even of scarlet fever. Cockroaches may become and often are as omnipresent as the cosmopolitan bedbug. If flies, fleas and bedbugs are disease breeders and carriers, why not cockroaches, that above all other pests are sewer and water inhabitants and hence direct accidental carriers of the typhoid bacillus, let alone the possible active and intermediary host of the same. The attention of bacteriologists needs to be called to this latter fact and the question decided by them.

Before going into the details of this house epidemic, I should like to call your attention to these Health Department Maps as illustrative of the distribution of typhoid in our last summer's epidemic.

*Read at 53d Annual Meeting, Chicago, May 30, 1903

In Alice Hamilton's recent description of Chicago's water supply and sewage conditions she does not include the territory outside of the sanitary drainage district, viz: the 33d and 8th wards or South Chicago with nearly 72,000 inhabitants. A location almost constantly submerged with sewage, and its soil contaminated from back yard privies, imperfectly constructed and broken sewers. Sewage conditions even worse, if possible, than that which obtains in the 18th, 19th and 9th wards, the centers of her investigations. Her careful experiments proved flies to be accidental carriers but not intermediary hosts of the typhoid bacillus, for positive cultures were grown from the feet and none from the excrement of flies caught in typhoid infected premises and bottled into culture tubes. Her work and that of others both abroad and at home, especially during our late war, is so conclusive as to the genetic relation of flies to typhoid infection, it seems strange that fleas, bedbugs and cockroaches have heretofore neither been suggested nor studied in a similar relation. These pests, the cockroach excepted, are known to convey the plague, why not therefore its allied disease, typhoid fever? Further, the cockroach, a constant water and sewer inhabitant liable to even closer contamination than the other insects, would appear not only a possible, but also a probable cause of typhoid fever, especially in crowded insanitary, uncleanly districts, where food pollution is not unusual, when cockroaches and other vermin overrun the premises.

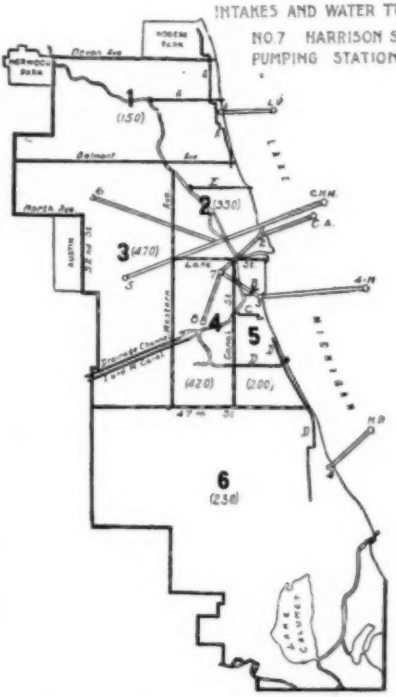
The territory described by Hamilton is congested and pest ridden. Its water supply from the Chicago Avenue, Carter Harrison and 4 mile tunnel, in July and subsequently was known to be typhoid infected and even though we acknowledge vermin as contributary agents we must not forget the primary cause, viz: water contamination. It is now known that in June the Harrison street pumping station well was polluted through the backing up sewage through a connection for carrying off condensed water from the engine. The heavy rainfall and the absence of the cap over the well add to this pollution. Map I. shows the distribution through the above pumping station (No. 7) corresponds to the badly infected area shown in Map II. A by pass at station 7 (the Harrison street pumping station) protected station 8 from this serious epidemic. South Chicago (the 33d and 8th wards) likewise a large, poor and insanitary quarter of the city, offers a contrast to the 18th, 19th and 9th wards above described as to typhoid incidence. See Map II.

Note the absence of typhoid fever in this 33d and 8th wards, almost constantly sew-

MAP I.

INTAKES AND WATER TUNNELS

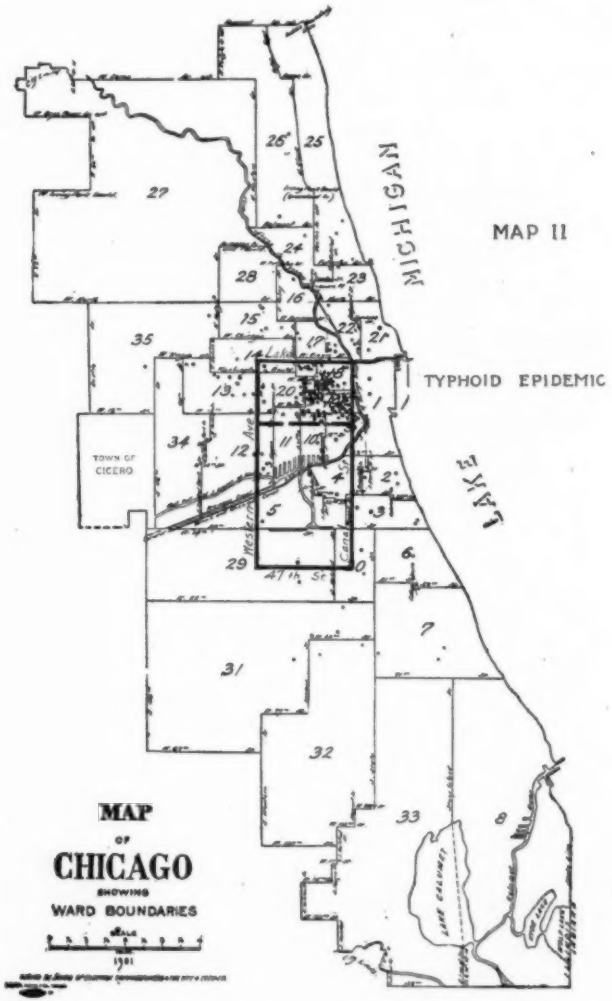
NO.7 HARRISON ST. PUMPING STATION.



age soaked, and undrained. How then shall we account for the epidemic in the 1st district and its absence in the latter? The sewage conditions were similar but not the water conditions, for the only pollution of the Hyde Park Intake furnishing this latter district took place March 12th after a heavy rain fall and a southeast wind that drove South Chicago's sewage into this crib. Furthermore, I account for the relative absence of typhoid in South Chicago from the fact of its com-

parative freedom from fleas, bedbugs, cockroaches if not flies. The houses even though unscreened, are newer, smaller, more widely separated and better kept than those of their comrades in the 17th, 18th, 19th and 9th wards working against great odds as to vermin extermination, consequently the absence of vermin and subsequent food contamination in the one and the presence in the other case was the cause of the typhoid excess in the latter in addition to its contaminated water supply.

These facts and the occurrence of a house epidemic of typhoid in a high class apartment in one of our best neighborhoods is offered as corrobative clinical evidence with reference to cockroaches and other vermin as subsidiary instruments in the extension of this water borne disease.



In October, 1902, upon complaint of Dr.

Wells I was ordered by the health department to investigate this house epidemic that in five months had claimed as many victims. The patients lived in a large eight flat building. A similar and adjoining building was furnished by a common artesian well water supply, general, and janitor service. Its inmates unlike those of its neighbor were and had been healthy for two years.

Another peculiarity was the fact that the typhoid cases with one exception were confined to the south tier of apartments and occurred in four families.

Case 1, a severe one, occurred in June. A delicate woman depressed by sorrow living in the 1st lower flat succumbed. Hydrox water and consumers ice were in use but raw fruits and vegetables were cleansed in faucet water that was likewise in use for mouth toilet and bathing purposes. Milk was supplied by the Borden Co. Two nurses and a competent doctor were in charge with a consequent attempt at proper disinfection of the discharges.

Case 2 appeared in July in the north lower flat opposite the 1st case. A growing lad was the patient. No information as to the domestic life was here obtainable, since at the time of my visit the family had moved, hence the discharges of this case may have infected the catch basins.

Case 3 in the south flat, 3d floor came down with the disease the 1st week in August. A child under two years of age was affected and previous to this time had been healthy. It with its mother had just returned from a six weeks sojourn at a Rhode Island sea coast town that for two years had been free from typhoid fever. Knickerbocker ice, Borden and later Gurler milk were used in this family. The house supply, artesian well water was the beverage in use. There was also careless washing of vegetables, etc., in this family.

Case 4, the mother of the above babe became ill the 1st week in October. A good physician and trained nurse were in charge of both cases.

Case 5, in south flat, 4th floor was reported by Dr. Wells, October 10th. Consumers ice and Hydrox water and Borden milk supplied this family. Faucet water was used for toilet and culinary purposes. This case, like Nos. 1, 3 and 4 was in the south tier of flats. Why, with one exception, was the north tier exempt?

Cases 1 and 2 in lower south and north flats, were convalescing when the family in the 3d south flat returned to a home that had been closed and uncared for six weeks and by this time was overrun with cockroaches. The same conditions existed for a like period in the 2d floor south flat directly over the home of the 1st patient taken sick.

Case 5, living on the 4th floor south flat complained during the summer to the agents and janitor for relief from a perfect pest of cockroaches. They were on the food and in the beds and all over the drawing room, so that this family were having daily and deadly raids upon these unwelcome guests that not only permanently installed themselves in every room but came up in additional hordes in the clothes baskets when the laundry was brought up from the basement, a place alive with cockroaches. Why was this basement overrun with them while the neighboring basement was exempt? The people in the latter were well and every flat occupied in this second apartment building, while in the first one there was sickness in two families to begin with and later in four with consequent anxiety and housekeeping neglect. The two closed flats above them next became vermin ridden and communicated this condition to the top flat from which the greatest complaint came and in which the last case of typhoid fever appeared.

The source of the infection in the 1st case is uncertain although it can probably be attributed to culinary and toilet use of the city water, that at intervals during the spring and early summer had been turned into the house mains by the janitor when his artesian well pump broke down. He also at monthly intervals turned on the city water into the tank in order to wash it out, for it was less labor to scrub it with city water than to carry up the artesian water from the pump level to a 60 or 70 foot tank elevation. Not alone may the artesian well tank water have

become contaminated but the house mains as well.

This state of affairs ceased with the employment of a new janitor later in the summer who notified tenants when the city water was turned into the house mains. If however, the infection was due in all these cases to the water supply why was there no further incidence of the disease in the other twelve families and why was it almost confined to the tier, directly over the first case unless the cockroach pest was in close relation thereto. Both the artesian well water, freshly pumped and the tank supply were examined twice in October and found typhoid germ free.

The pump connections, piping and drainage were perfect as were the plumbing and sewage connections. Upon repeated complaint of the tenants during the summer the catch basins were finally cleaned in the fall, but not probably until after the cockroaches had carried sewage, typhoid infected from case 1 or possibly case 2 to the food supplies of the other afflicted families. By October the vermin were also beginning to disappear by reason of the effort of professional exterminators. No more cases occurred. During this epidemic the adjacent building had been comparatively free from cockroaches, its flats were continuously occupied, hence good housekeeping obtained; therefore freedom from these water and sewage borne pests and consequent typhoid invasion.

What Homan of St. Louis said in 1901 is pertinent. He asked "Whether a speculative etiology may not have gone astray and that the spores and germs are now being aimed at in disinfection when really the personal parasites of man and beast are the real offenders."

Hence sulphur fumigation for vermin extirpation is indicated at least as supplementary to our present methods of formalin disinfection.

In conclusion let me add that I hope this clinical observation with reference to cockroaches as typhoid carriers will lead to investigation on the part of our bacteriologists and this presumption either proved or disproved.

THE DANGERS OF AN EXCLUSIVE MILK DIE TIN NEPHRITIS.*

BY ALFRED C. CROFTAN, M. D., CHICAGO.
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There is a wide spread popular prejudice in favor of an exclusive milk diet in nephritis. This we owe chiefly to the French school of clinicians (*le régime lacte doit être aussi absolu que possible,* Dieulafoy) and to numerous imitators thta this school has educated.

Many of the leading German authorities, are endeavoring to give other rational regimes a fair trial. In this country some of the more careful clinical observers are also beginning to encourage more liberal feeding in nephritis.

The mass of general practitioners, however, and the laity, are still completely under the spell of the older teachings in regard to the necessity of an exclusive milk diet in nephritis. That this is the case is documented by the large number of nephritics who drift to the specialist in large centers with an heroic and at the same time pitiable history of having rigidly subsisted, on the advice of their physician or without it, for months and even years on a diet consisting almost exclusively of milk.

That milk is a useful article of diet in the management of nephritis, probably the most useful article we possess, no one will gainsay; that milk should be given persistently and should constitute a large proportion of the food to be administered in these cases is also conceded; but I emphatically protest against the use of an *exclusive* milk diet in these cases—for such a regime (excepting possibly in very acute cases of nephritis, and then only for a few days) is directly harmful and dangerous to these patients.

I base this arraignment on the following considerations: In selecting a dietary in cases of acute inflammatory or of chronic destructive lesions of the kidneys three indications must be met, viz.:

1. The diet must contain qualitatively

*Read at 53d Annual Meeting, Chicago, May 30, 1903

and quantitatively all that is needed to maintain the general nutrition (nutritive equilibrium) of the patient.

2. The diet must contain as little as possible of materials that in their ultimate passage through the kidneys can irritate the renal epithelia.

3. The diet while sparing the kidney function must not overtax or otherwise injure the function of other organs.

Does an exclusive milk diet meet these three requirements?

1. The effect of an exclusive milk diet on general nutrition.

Can full nutrition be maintained on an exclusive milk diet? Theoretically, yes; for a time. But in order to do this enormous quantities of milk must be consumed and even then there is a deficiency of one all-improtant element, namely, iron. In addition, the normal proportion of the proteids, fats, carbohydrates, mineral constituents and water that make up the average diet is perverted in the sense that relatively and absolutely increased quantities of proteid and of water are ingested; and these two elements precisely, as I will show, should be reduced in feeding kidney cases.

In regard to the deficiency of iron. One might argue that as milk can nourish infants for a year or longer the amount of iron in the milk should be sufficient to fulfill all the demands of the organism. As a matter of fact, however, it has been demonstrated that milk, while it contains exactly the same proportion of calcium, magnesium, potassium, phosphorus, etc., as the ash of the new born animals of the species from which it is derived, contains six times less iron. This peculiar anomaly is explained by the discovery of Bunge that the iron content of young suckling creatures decreases with the age of the animal and reaches its minimum at the time when iron containing food is first eaten. The young animal therefore brings a surplus of iron into the world and is independent of the milk for its supply. This must be considered a wise protective process for the iron compounds of the milk are very liable to undergo bacterial decomposition in the intestine and hence to escape assimilation.

It may be considered established therefore that milk contains too little iron to adequately supply adults with this element.

Here then is a qualitative deficiency that must by all means be remedied. The lack of iron in the milk can probably in part be made responsible for the anemia that is so common in cases of chronic nephritis who become martyrs of the milk regime.

That the proteids are excessive if an adult is fed on milk exclusively is readily shown by the following calculation.

A normal adult requires approximately 3000 calories per diem to maintain full nutrition. As one liter of milk has a caloric value of only about 700, from 4 to 4½ liters of cows milk would be required to meet the nutritional requirements of the subject. Less would not maintain nutritive equilibrium. This large amount of milk contains nearly 170 grams of proteid, whereas the normal average quantity of proteid ingested by a healthy adult, and the normal quantity required does not exceed 100 grams per diem.

Aside therefore from overloading the stomach and flooding the circulation with enormous quantities of water we force the patient to assimilate and disassimilate nearly twice as much albumin as he is accustomed to and as he requires. That grave dangers accrue to the renal epithelium and the cardio-vascular apparatus from this practice I will presently show.

2. The effect of an exclusive milk diet on the renal epithelium.

In determining the effect of an exclusive milk diet on the kidneys it is necessary to establish (1) what urinary end-products are formed from the various ingredients of the milk (2) whether any of these end-products when passing through the kidneys in large quantities are capable of injuring the renal epithelium.

The chief urinary end products of milk metabolism that must be considered in this connection are water, urea and phosphates.

Water: When the kidneys are acutely inflamed, water is retained; the reduction of

diuresis shows that the elimination of water has become difficult. If we adhere, therefore, to the principle of sparing the kidneys, it is bad practice in acute nephritis to force the patient to take large quantities of fluid. All that we can expect to accomplish by this practice is to cause an accumulation of water in the blood and tissues (hydraemia and oedema). At the same time by trying to forcibly overcome the resistance that the kidneys offer to the passage of water, we merely promote the irritation of the kidney epithelium.

The ingestion of fluids in acute nephritis should therefore be limited and not increased, as so many writers advocate. If the patients complain of thirst (and many such cases do) enough water should be given to satisfy the patient's cravings; but the kidneys should at the same time be relieved of the difficult labor of excreting water by promoting the elimination of surplus water through the skin.

In convalescence from acute nephritis and in sub-chronic forms of the disease, diuresis spontaneously increases. This indicates that at this period more fluid may be given with impunity, as far, at least, as the kidney epithelia are concerned. The intake of water should, however, be largely regulated by the outflow through the kidneys. More than one to one and a half litres are never required at this stage. Larger quantities are directly harmful, inasmuch as they must needs overtax the slowly convalescent renal epithelia.

If the patient is fed on milk alone, and if enough milk is given to adequately nourish him, too much water by far is forced to the kidneys.

In chronic forms of nephritis diuresis is usually very free, and it is an easy matter to produce an abundant flow of urine by the ingestion of large quantities of fluid. What benefits the renal epithelia derive from this practice is, however, uncertain. The urine becomes more dilute and the relative percentage of albumin consequently decreases. Whether or not, however, an abundant flow of water through the kidneys exercises an appreciable effect on the absolute total quantity of albumin or on the total excretion of urinary solids, remains doubtful, according to the careful investigations that Van Noorden, Ritter, Dapper, Mohr and others have carried out. Theoretically one might argue that the renal epithelia will be less irritated if the urinary solids reach them in a dilute form than if they pass through the kidneys in a more concentrated solution.

At best, however, the advantages derived from the ingestion of much water, as necessitated by an exclusive milk diet, are highly problematical in cases of chronic nephritis. This applies, at least, as far as the renal epithelia and the excretory functions of the kidneys are concerned. The disadvantages, on the other hand, accruing to the digestive and cardio-vascular apparatus, are only too apparent (see below).

The abundant ingestion of water as necessitated by an exclusive milk diet is therefore positively harmful to the renal epithelia in acute nephritis. It is apt to retard the healing process in sub-acute forms of the disease and it is superfluous in the chronic cases.

Urea: Urea must be considered an irritant of the kidney epithelium. When the kidneys are healthy, the epithelia respond to this irritation by a copious excretion of urea. As soon as the kidneys become inflamed, they can no longer respond to this stimulus and urea is retained. It appears rational, therefore, to decrease as much as possible the urea circulating through the kidneys. This can only be done by decreasing the ingestion of proteids, for urea is probably exclusively derived from the catabolism of albumin.

I have already shown that on an exclusive milk diet the amount of proteid ingested is nearly twice as great as that normally taken by a healthy adult. The formation of urea is correspondingly increased and more urea than normal clamors for elimination through the kidneys. That this must lead to overstimulation of the diseased renal epithelia is apparent.

In chronic forms of nephritis, with free diuresis, similar objections to the excessive ingestion of milk proteids hold good. For the abundant outflow of water in these cases is by no means always accompanied by a

correspondingly increased output of urinary solids. So that the retention of urea and of other excrementitious solids is to be dreaded in these cases also.

On this count then, too, an exclusive milk diet is to be condemned.

..*Phosphates:* Phosphates are excreted with difficulty when the kidneys are diseased. Milk is very rich in phosphates. In a healthy individual the urinary phosphorus excretion is greatly increased on an exclusive milk diet. If the kidneys are to be spared, the urinary phosphate excretion should be reduced and not increased, as is done by feeding milk exclusively.

This difficulty, it is true, can be partially overcome by adding lime salts to the milk. For the lime phosphate that forms is either not absorbed from the intestine, or, if it is assimilated to a slight extent, is again largely excreted into the bowel; in this way the passage of phosphates through the kidneys can be prevented (see also my article on "The Administration of Calcium Salts in Nephrolithiasis Due to Uric Acid Calculi," Jour. A. M. A., April, 1903).

We see, therefore, that *as far as the renal epithelia are concerned, much water, much urea and much phosphate, all elements that are carried to the kidneys in large quantities when we feed our nephritics on an exclusive milk diet, act as irritants to the renal epithelia and are consequently harmful.*

3. The Effect of an Exclusive Milk Diet on Other Organs than the Kidneys.

Aside from the fact that feeding with milk alone for a long time becomes thoroughly distasteful and even disgusting to the patients, that consequently the appetite is lost and the normal psychic stimulus necessary to perfect digestion is perverted, the ingestion of large amounts of water necessarily mechanical does injury to the stomach, the heart and arteries.

I will briefly speak of the latter alone, and will not elaborate on the effects of continuous dilatation of the stomach and continuous dilution of the gastro-intestinal secretions on digestion and absorption. One should always remember that in chronic nephritis much irritating excrementitious matter vicariously leaves the body by way of the bowels instead of the kidneys, and that consequently the intestinal mucosa is in an abnormal state of hyper-irritability. Hence the common digestive disorders of nephritis, and hence, too, the danger of feeding on large quantities of milk alone.

In order that the large amounts of ingested fluids leave the body in the urine, the blood pressure must be increased. In view of the fact that in chronic nephritis the heart and arteries are already taxed to their limit and the blood pressure is already abnormally high, the cardio-vascular apparatus should be spared as much, if not more (!) than the kidneys.

This postulate is flagrantly violated when we feed our nephritics on milk alone and flood the circulation with water. I venture to say that death from failure of the circulation is often accelerated by milk feeding, and that life could be prolonged and many nephritics could be made infinitely more comfortable if the practice of exclusive milk feeding were abandoned.

In subacute forms of parenchymatous nephritis and in convalescence from acute nephritis when diuresis is improving but the renal epithelia are still inflamed, the more abundant ingestion of fluids should by all means be compensated by stimulation of diaphoresis: this practice not only relieves the kidneys of the work of excreting water (see above) but it also relieves the heart and arteries of the strenuous labor of pumping and carrying more water than they should be burdened with at this stage of the disease. It is for this reason, I believe, that nephritics often do so well in hot dry climates where the loss of water through insensible perspiration permits free water drinking without detriment to the renal and cardio-vascular apparatus.

We see, therefore, that milk when given alone and in large quantities meets none of the three requirements of an ideal food for nephritic cases.

If it were not for the pronounced prejudice in favor of an exclusive milk diet, it would seem almost trite to adduce all these self evident arguments against the use of

such a method of feeding. Many practitioners, however, I venture to say, still adhere to this dietetic treatment, merely because they are afraid to replace it by other dietaries that have not been so thoroughly tried. As a matter of fact it is a very easy affair to arrange a variety of different dietaries that possess all the advantages that are hypothetically postulated for milk without at the same time suffering from the manifold disadvantages inherent in exclusive milk feeding.

Such a dietary should in acute cases contain a minimum of proteids and of water. A small quantity of milk with cream meets all the requirements, and it is perfectly permissible to underfeed these patients for the short number of days during which the acute inflammation of the kidneys persists. In fact, the withdrawal of all food or at least a reduction of the food to a very small quantity for a few days, is by all means preferable to feeding with large quantities of milk.

In chronic cases a dietary also containing a relatively small amount of proteids (60 to 80 gr. a day are sufficient to maintain nutrition) and a relatively increased amount of fats and carbo-hydrates to make up the requisite 2800 to 3000 calories, with a small amount of fluid (not to exceed 1500 c.c. per diem) meets all requirements.

One liter and a half of milk, plus a quarter of a liter of cream, for instance, contains approximately 50 g. of proteids (equal to 225 cal.) 75 g. of carbo-hydrates (equal 337 cal.) and 150 g. of fat (equal 1350 cal.) or a sum total of about 1912 calories. In order to make up the difference of 1088 cal. a little meat, eggs, sugar, butter, toast, zwieback, rice, fresh vegetables, etc., may be allowed with impunity, care being taken that the caloric value of 3000 is not greatly exceeded and that all articles of diet that lead to the formation of irritating urinary end products (spices, condiments, etc.) are avoided. A discussion of the complete dietetics of nephritis would lead us beyond the scope of this article.

Both the condemnation and the commendation of various dietaries is largely based on theoretical considerations and on *a priori* reasoning; as a result we find the greatest diversity of opinions among different clinical schools. I do not believe that in the present state of our knowledge, we are able to formulate any fixed rules in regard to the feeding of nephritics. We do not know enough of the etiology of Bright's disease; do not even know whether we are dealing with a primary local affection of the kidneys or a secondary renal manifestation of a general toxemia (due to a variety of different possible causes) affecting other organs (heart, arteries, retinal vessels, nervous system, stomach and intestines) simultaneously. Personally I am inclined to the latter belief.

For the present, clinical experience and the reaction of the sick *individual* to treatment, not laboratory findings and the reaction of the kidney function alone (for I do not consider, for instance, slight fluctuations in the degree of albuminuria an index of the progress or the regress of the disease) must be our guides. And I think that the consensus of clinical experience speaks for more liberal feeding of kidney cases than is usually adopted, and decidedly against one sided alimentation. It speaks by all means against an exclusive milk diet.

Discussion.

Robert H. Babcock, Chicago: I regret very much that some points in this very capable paper could not have been elaborated more by the author; that is, dwelt on more in detail. I should like to refer for a moment to the ingestion of fluids in nephritis, especially chronic nephritis. The author touched upon this in his consideration of the injury to other organs. It is almost a universal rule for physicians to encourage their patients with chronic nephritis to ingest very large amounts of fluid; the more the better. It has been pointed out by many, and recently in an admirable article by Von Noorden on the diet in chronic nephritis, which appeared in the International Clinics of Philadelphia, that it is sometimes a mistake to encourage these patients to drink large amounts of fluid, but just as much a mistake, on the other hand, not to take enough fluid. Some patients pass more urine when they drink a moderate amount or even a comparatively small amount of water, and other patients pass more urine when they drink a large amount of water. Therefore, a universal rule cannot be laid down. The physician and the patient together should ascertain what amount of fluid intake will enable that patient to pass the largest amount of urine. When a patient takes in an amount of fluid that he cannot excrete, as Dr. Croftan stated, he overtaxes his cardio-vascular system and the integrity of the heart in its maintenance of the blood

pressure, which is an absolute **sine qua non** in prolonging the life of chronic nephritis patients.

It is just in this respect that an exclusive milk diet is harmful to many of these cases. They are not able to excrete all of the fluid they take in. This touches vitally on the matter of the regulation, by experience, of the amount of fluid appropriate in each case.

BREAST VERSUS BOTTLE IN INFANT FEEDING.

BY ALFRED C. COTTON, M. D., CHICAGO.

Statistics as to the relative morbidity or even mortality with reference to the methods of feeding are difficult to obtain. This is especially true in America where but little effort has been made to secure this information through the death certificates of infants. In some foreign countries and cities physicians certifying to the death of an infant, must state not only the cause of death but also the method of feeding. From such data only, can accurate information be obtained as to the relative mortality of bottle and breast fed infants. Attempts have been made from time to time in many population centers by means of circular letters and personal canvas of the local medical profession to secure expressions of opinions on this subject. The results of all these efforts show a startling but significant uniformity. It has been found that the infant at the breast possesses a remarkable immunity. 1st, from a majority of the acute infectious diseases; 2d, from the diarrheal disorders, and, 3d, from such nutritional diseases as rickets, scorbutus, marasmus, etc.

It is fair to state that in the exceptional cases where these disorders occur in the breast fed, the tendency to fatality is far less than from the same diseases in the artificially fed. These facts no one will gainsay although many theories obtain as to their explanation.

In summer diarrheas alone statistics show that 97% of the fatal cases were artificially fed, leaving only 3% of the mortality in infants exclusively at the breast. A startling exhibit for the dead, but when we consider the fact that among the survivors many show the effects of retarded development for years and sometimes throughout life in acquired diathesis and lessened resistance to intercurrent diseases, we perceive that not only is the indirect mortality largely increased but that the physical and mental impairment must be added to the sum total. No one disputes that rickets, scurvy and marasmus are essentially disorders of artificial feeding, nor that intractable summer complaint must be considered synonymous with artificial feeding. The argument in favor of substitute feeding that judicious and scientific supervision would appreciably lessen the mortality of this class can be offset by the very apparent fact that the same intelligent care applied to breast feeding would practically eliminate fatality from this cause.

If better evidence of the inefficiency of any known method of artificial feeding than the high mortality is required, one has only to turn to the enthusiastic feeding faddists themselves. Unanimity of opinion among independent observers means something. Today no one questions the efficiency of quinine in malaria or of mercury in syphilis. The fad for artificial feeding is fast becoming a mania under the leadership of some physicians who have done much to improve artificial feeding and who make extravagant claims for results thereof. Isn't it time to call a halt, not to dampen the ardor of those who are working along the lines of improved dietetics for infancy, but to arrest the tendency which seems to be growing to depend upon artificial as against *natural* food. There is a tendency to raise artificial feeding from its true position of a *dernier resort* to that of a *premiere resort*. But the admission even for argument's sake that cow's milk may be equal to breast milk cannot be tolerated in practice.

It is entirely beyond the province of this paper even to mention the many different kinds of infant foods—much less to discuss their relative merits. Look where we will, the evidences are abundant of continuous effort to solve the problem of a suitable substitute for breast milk, and the highest recommendation claimed for any substitute is that it most nearly resembles the maternal product. In cow's milk was found this apparent resemblance with but little variation

in the percentages of its gross constituents, namely: fats, lactose, proteids and salts. To perfect more nearly this resemblance a modification of these percentages was desirable. At first glance it would seem that this desideratum is secured in the milk laboratory. The persistent high mortality, however, under even the wisest modifications, has led to a more careful comparison between human milk and that of other mammals with results that afford some explanation for the failures in substitute feeding by cow's milk. The albuminoids of mother's milk differ essentially from those of cow's milk. By taking two watch crystals, filled with a weak solution of acetic acid, and letting fall into them from a height of two or three inches, a drop of mother's milk and a drop of cow's milk respectively, one of these differences becomes apparent, mother's milk coagulating in light loose flocculi, which disseminate throughout the fluid; that of the cow's showing dense and heavy curds which fall to the bottom. In other words, the proportion of proteid coagulable by acid (caseinogen) is much greater in cow's milk than in human milk. According to König, the proportion of lactalbumin to caseinogen is as 1:4 in cow's milk, while in human milk it is as 1:2. It seems hardly necessary to emphasize the fact that the finely subdivided precipitate favors the action of the digestive secretions, while the dense curds of cow's milk resist this action so long that fermentation often ensues, with all its train of intestinal disturbances. Wroblewski has demonstrated that human casein retains, during digestion, its nuclein in solution; it is fully digested, while in cow's casein the nuclein is not fully digested; a "paranuclein" is deposited undissolved and undigested.

From his studies of *nucleon* Siegfried found that cow's milk contains 0.057 and woman's milk 0.123 per cent nucleon. In cow's milk the phosphorus of the nuclein amounts to six per cent of the total amount of phosphorus contained in the milk; in woman's milk 41.5 per cent. Practically all the phosphorus in human milk is in organic combination (nuclein and caseinogen). Concerning this point Salkowski says: "These conditions are evidently of the greatest moment in the nutrition of the nursling. As the devolopment of the bones is more rapidly accomplished in the nurslings fed on woman's milk than in those fed on cow's milk, the probable conclusion is this: that nucleon has an important part in the absorption and assimiliation of phosphorus. The same should be said of calcium, which also combines with nucleon. Although woman's milk contains less calcium than cow's milk, more calcium is utilized and the nucleon is evidently an important factor in the absorption."

From the above, some explanation may be drawn: First, as to why some infants can not be induced to tolerate cow's milk in any of its possible modifications; second, why normal nutrition cannot be maintained even though digestive toleration be established. The assertion made by many writers that strong children may tolerate cow proteids even though not largely reduced, does not help us out, for the reason that it is for the weakly infant with the feeble digestion that the skill of the physician is sought.

It is argued (since the caseinogen, so largely in excess in cow's proteid, has proven that most intractable constituent to infant digestion) that splitting the proteids by the precipitation of this ingredient with rennin, retaining only the more soluble lactalbumin and globulim, would overcome this obstacle. The result is seen in the revived popularity of the old time whey and cream mixtures with some apparent improvement in infant gastric toleration. As I believe no one will contend that the average cow's milk is better adapted to the requirements of infant digestion than is average human milk, so I believe that no one would claim that the mother's product would be improved by milking it in a can, running it through a strainer then through a separator and hauling it over miles of country road, of railroad, of city streets, to be sterilized or even warmed again in the nursery and fed through a rubber nipple. I believe that it is more than a mere theory that the fresh lacteal secretion possesses an element of vitality quite essential to its ready absorbabil-

ity in the infant's digestive tube that is lost in the process of chilling, separation, hygienic laboratory processes. It is more than a mere theory that the elaboration of the lacteal product of different mammals is accompanied by the production of certain characteristic enzymes which facilitate its digestion and absorption and afford a possible explanation of the immunity of the breast fed to many infections. Aside from bacterial contamination is there not a difference between live and dead milk?

If the idealist, then, in artificial feeding with his herd of selected cows, (under the care of a competent veterinarian) carefully housed and dieted and groomed and milked according to accepted hygienic principles, the product handled according to sanitary requirements, modified in the laboratory by chemists most scientifically, if he fail to secure, with the select few, results which compare favorably with mother natures simple processes, what shall we say of the thousands in the unfavored masses who must depend for artificial feeding upon the ordinary unprotected milk supply?

There is no doubt that with improvement in the general milk supply by careful hygienic supervision, many of the evils of milk feeding will be diminished, but the most sanguine advocates of modified cow's milk have never claimed for a moment that they ever hoper to rival breast milk as a food for infants. Is it not time to inquire why more of this energy is not directed along the line of natural feeding? Disturbances of lactation, their causes, correction and prevention are problems which have received but little attention when compared with the zeal displayed in the search of some new method of artificial feeding. The study of the physiology and hygiene of lactation is the subject for the future children's physician. In this work the frequent analytical examination of breast milk must be an important factor. I believe that any agency that has a tendency to minimize the importance of breast feeding should be watched and guarded jealously by all wide awake humanitarians.

On this account the milk laboratory is to some extent a delusion and a snare. Its malign influence is farther reaching than any other method of artificial feeding for the very reason that it comes nearer meeting the scientific requirements. The fact that it receives the endorsement of some of the best students of infant dietetics renders it all the more dangerous because of the lessened reluctance of mothers and physicians to resign their helpless charges to the dangers of artificial feeding.

The great value of the laboratory in emergencies cannot be questioned. In fact, it marks the extreme degree of progress in infant artificial alimentation, but the establishment of a belief in the minds of the laity, or of the profession, that laboratory feeding is worthy of comparison with the natural method is too far reaching in its baleful consequences.

While agreeing with Louis Starr that a large majority of American mothers naturally desire to nurse their infants, I am satisfied that the demands of social life and the apparent exigencies in her struggle for subsistence too frequently convince the mother that it is her duty to put the infant away from the breast at an early period. In this struggle between maternal inclination and apparent duty, the suggestion that any particular method of substitute feeding receives the sanction of the highest authorities comes to our mother Eve as the whisper of the serpent in the garden.

Then, in view of our knowledge of the mortality and morbidity of the artificially fed I ask what right we have to expose any infant to these dangers? What would be thought of the surgeon who deliberately adopts a method of operation as a mere matter of convenience or expense with the knowledge that the patient's life is jeopardized thereby many fold? Does not the same responsibility rest upon the doctor who counsels or even allows the removal of an infant from the breast with the knowledge that he is consigning him to a class in which the mortality is 8 to 10 fold that of the breast fed? Many of the obstacles to natural feeding are insuperable or even formidable only as long as the lay mind is ignorant of the rarity of this necessity. When this re-

sponsibility is brought home to the physician the difficulties of breast feeding will become proportionately insignificant.

In England there is at present agitation for legislation to prevent the employment of mothers whose infants are under one year. The function of nursing is so important, not only to the life and future well being of the infant but also to the interest of the state, that too much can not be done to encourage and dignify the custom.

From the dawn of art to the last half century the nursing mother has been deified, witness the portraits of Madonnas which crowd the world's art galleries. If the halo *must* be torn from the brow of the twentieth century mother, let us see that it finds its next best place upon the head of the carefully selected wet-nurse rather than upon that of the cow, goat, ass or mare.

Hygiene and sanitation present today no subject of equal importance to that of breast feeding of infants. The question of the hour is how may the vast amount of priceless pabulum now running to waste from abandoned mammary glands be utilized. The material is abundant but scattered. The crying need is everywhere in evidence. There is urgent demand for an organized registration bureau for wet nurses—an organization that shall guarantee a complete medical supervision and inspection of all wet nurses offered to the public, one that will appeal to the confidence of the profession, whose busy members driven to their wits ends by exasperating failures to secure substitute breasts fall too readily into the slough of artificial feeding.

Discussion.

I. A. Abt, Chicago: I was very much gratified to hear this excellent paper, and I am sure that no more important a theme could be discussed from the standpoint of infant feeding than the point that the mother's milk is the best food for the infant. There is no doubt but that with our modern civilization mothers cannot nurse their babies. In a large number of cases, perhaps only three in ten or four in ten, mothers can nurse their babies during the normal period of lactation. There seems to be something in the social environment that actually prevents women from nursing their babies. It is the experience of all of us that perhaps in the fourth or fifth, sometimes as late as the tenth week, the mother's milk gradually dries up. She means well, she wants to nurse her baby, but she cannot do it. When that occurs the problem confronts us, how shall the baby be fed. That hardly came under the scope of Dr. Cotton's paper, but, I think, we ought to come out now and make some positive declarations as to what can be done for infants who are unfortunate enough to be deprived of their natural food. When we review the immense literature on infants feeding, everything that has been done and suggested during the last ten or fifteen years, we are appalled. Huebner, of Berlin, feeds his babies on the plan of giving so many calories of food in order to maintain life and equilibrium by weight. Others give Gaertner's milk. And when we come to the literature of our own country we find that there is more intelligent feeding done here in America than elsewhere, because Americans are trying to get a food that is adapted to the child's ability to digest.

I have had some experience with artificial feeding by means of substitute or modified milk products and I have come to the conclusion that if the physician will study out a plan of feeding for each case, if he will individualize, he can, in a large number of cases, successfully feed his baby. As time goes on and as we become more familiar with the methods and as we learn more about the management of cases and classify them, we will, I am sure, meet with greater successes than we did formerly. I did not quite understand formerly that I could give the child low percentages of proteids and albumens and still maintain life. I find now that I can modify the foods, give lower percentages and thus make more suitable combinations. And I can make them right at the home, doing without the laboratory, by following out the various plans devised by distinguished Americans who have worked out this very important problem.

Wm. H. Butler, Chicago: I think Dr. Abt has touched upon one of the points that characterizes the pediatrician from the general practitioner, and that is the question of substitute feeding. But we must acknowledge that substitute feeding is not based on any scientific method. He depends too much upon the puttering of the man who intends to do the feeding. Depending on a low percentage of proteids, as Dr. Abt says, it is a case of puttering with the child until you strike a food medium that will agree with the child. The whole principle of feeding is not placed on a scientific basis, because apparently it has not yet been started in the right direction. The substitute feeding methods have been reasoned out backwards, as it were, from the diet standpoint rather than from the standpoint of the toleration of the infant. As, for instance, Rotch's present method of laboratory feeding based on the percentage plan. It is not reasoned out from the standpoint of the toleration of the infant, but from the food basis; that is to use only those food constituents which we have learned from experience, and not from scientific reasoning, will be tolerated by the infant.

Dr. Cotton has laid emphasis on a point that should be impressed on the profession at all times when opportunity offers, and that is that there is no method of feeding so ideal

as the breast feeding, and that alone does not meet all the requirements.

As to the percentage of infants that are fed by mother's—I believe Dr. Abt is a little low on that. So frequently it is the fault of the advice given the mother. The mother is frequently discouraged, because of the neurasthenic tendencies of many mothers, believing that the nursing infant is a drain on her; or because they are prohibited in a way from engaging in the same social life as they did before because they are kept down by the infant. This is frequently the reason, in the city at least, why there is a lessened tendency for mothers to nurse their infant. Yet we must remember that there is no feeding so ideal as the breast feeding and we should always do all we can to encourage it when it is possible.

Dr. **Cotton** (closing the discussion): It was not my intention to precipitate a discussion regarding infant feeding. It is well known that hardly a subject may be mentioned in any assemblage of practitioners, except, perhaps, along the line of the surgical specialties, that will precipitate a more prolonged discussion than infant feeding. Bodies fail to adjourn for dinner; set aside their business as long as anybody can get the floor to say something more about how to feed infants. All of which proves the absence of harmony and unanimity in the methods of infant feeding, and perhaps gives us the reasons for the failure of all known methods of artificial feeding, and it is another plea for the natural feeding of infants.

I appreciate all that Dr. Abt and Dr. Butler said, because we have all had the same experience, the difficulty of getting milk from a dry breast. I think it is Emmett Holt who says that he believes that only eight percent of women can nurse their babes; a most unfortunate class of patients.

It was many years ago that surgeons used to discuss healing by first intention and second intention, and laudable pus, and a whole lot of things relegated now to the rubbish heap. As soon as it dawned upon them what must be done, antiseptic or aseptic surgery sprang out and everybody went to work on a new basis and along new lines. That constitutes the difference between the surgeon and the physician. I am sorry to say that we are puttering around without being able to see the truth. I believe it is a matter of education.

Milk analysis—How many practitioners who treat the disorders of infants make it a practice to analyze the mother's milk. Some of my most respected colleagues in pediatric lines have said to me, "What is the use of doing this milk analysis?" I have tried it and do not see that it does any good. Thirty years ago the average practitioner would say, "What is the use of this routine uranalysis." You older men know that after all you have examined the urine of your patients for thirty years as a routine practice; and finally when you were stimulated to examine the secretions you did it as a routine practice without hardly knowing why you did it. You must admit the truth of that. By persistency in examining this one excretion light gradually dawned; facts were added. How many now make a systematic examination of the blood secretions and excretions. A systematic routine practice adds facts and data that will shed light upon these obscure points.

I believe that everyone who has to do with the feeding of infants should insist that he must know the reason why the mother cannot feed her infant; put it to her that it is her duty to do it. Tell her the facts and show statistics, and if she has not the milk, try to find out why.

What is the hygiene of lactation? That is too large a subject to go into at this time. Until we make a positive stand we will still continue to find in books the articles on infant feeding. It is the natural feeding that we want, not the artificial and the physician is the man to bring about the desired state of affairs.

HEREDITARY TENDENCY TO REFRACTIVE ERRORS IN A FAMILY.*

BY MORTIMER FRANK, B. SC. (M. I. T.) M. D., CHICAGO.

Errors of refraction as a rule are not largely influenced by heredity. In the greater number of cases, where the transmission of faults in the refractive apparatus of the eye recur in the offspring, myopia is more often transmitted. Owing to several interesting hereditary features, the following history seems worthy of record.

The father was myopic but never wore glasses. His mother and three sisters were likewise near-sighted, but all wore a constant correction. The mother of the family has worn a convex lens for distance for the past eight years, and recently, when re-examined for her presbyopic correction, was given a +4.50 sphere in each eye for constant use.

Of five children the eldest child, a daughter, has worn concave glasses, O. D.—2.50 ⊂ —1.75×180 O. S. —5.50×160 for fifteen years.

The second child, a daughter, was lately refracted and wears continuously O. D. —8.50 ⊂ —1.50×180. O. S. —9.50 sphere. For the past twenty-one years she has worn her myopic correction.

The third child, a son, was examined for the first time a year ago and uses O. D. —5.00 sphere. O. S.+1.00 sphere, as his correcting glass.

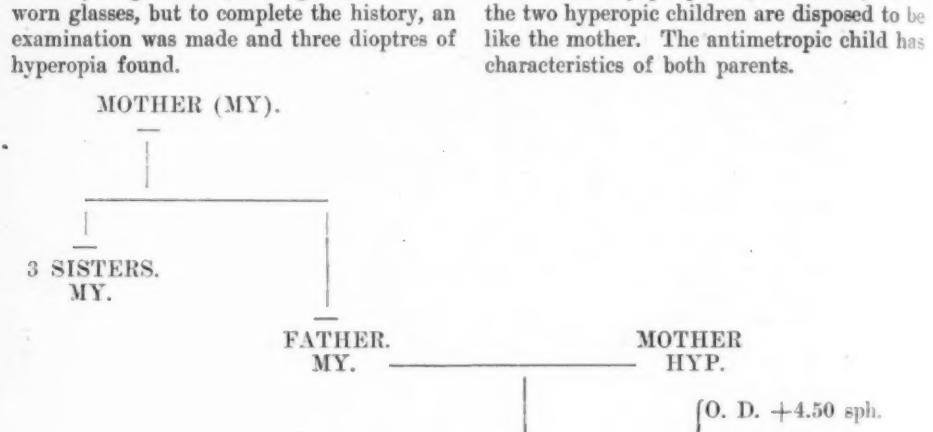
The fourth child, a son, was refracted three

*Read at 53d Annual Meeting, Chicago, May 30, 1902

years ago and was given a +2.50 sphere in each eye.

The youngest child, a daughter, has never worn glasses, but to complete the history, an examination was made and three dioptres of hyperopia found.

In the cases just cited, the two myopic children are of the same neurotic temperament as the myopic parent, the father, while the two hyperopic children are disposed to be like the mother. The antimetropic child has characteristics of both parents.



3. Antimetropia { O. D. —5.00. sph. / O. S. +1.00. sph.

4. Hyp. { O. D. +2.50. sph. / O. S. +2.50. sph.

1. MY. { O. D. —2.50 ⊂ —1.75×180. / O. S. —5.50×160.

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TREATMENT OF TYPHOID FEVER.

BY WILLIAM F. WAUGH, M. D.,
Professor of Practice, etc., Illinois Medical College.

The motto of modern surgery is early and decisive intervention. The lesson of Antitoxin is the same. The watchword of those who practice and believe in modern therapeutics is the same. We cannot afford to wait until the slow methods of the bacteriologists have established a diagnosis that, like an autopsy, comes too late to benefit the patient. Typhoid fever must be diagnosed so far as to permit its effective treatment in the incipiency of the attack; and the physician who cannot do this must learn how to do it. Very often the diagnosis is so far exclusive that we are able to say that if not typhoid we are unable to form a distinct conception of the case. And as the treatment of this fever does no harm in other maladies, is in

fact mainly indicated in any case presenting the initial symptoms of typhoid, no possible harm can accrue from it.

Take a case that has been exposed to typhoid, a young adult coming from the country to the city, with lassitude, epistaxis, broken sleep, incoherent dreams gradually becoming conscious, aching of the bones on which the body rests, weakness and sweating after meals, intestinal disturbance aggravated by laxatives, tympanites, tongue tending to show a red tip and edges and a dry or dark stripe down the center, and we need not wait for the rose spots or the Widal reaction. Long before this train of symptoms is arrayed the experienced physician will have his patient on appropriate treatment.

Begin with calomel. Wunderlich showed that whatever the treatment it was more effective if a preliminary dose or two of calomel, gr. v—x, was administered. We do better now, for we follow with saline laxatives till the alimentary canal is empty, possibly aiding with repeated enemas of some mild antiseptic, such as the sulphorcarbolate of zinc ten grains to the pint. There is always advantage in clearing the bowels of all possible accumulations.

In the vast majority of instances the bacteria causing the attack enter through the alimentary canal; there they must multiply and establish colonies before they can muster sufficient strength to produce the typical symptoms. There their most prominent lesions are found, so much that the malady has been denominated enteric fever. And in the alimentary canal during an attack we find the conditions of abundant heat and moisture, decomposable material in abundance, myriads of microorganisms of many varieties and a marked deficiency in the quantity of the alimentary fluids like the bile, that are believed to in some measure disinfect the bowel, or at least keep its contents toxicity down. No one who has noted the odor of an alcholic stool can doubt that the bile is at least a deodorant; and that this action is beneficial.

These considerations point *a priori* to the probability that the antiseptics will be useful in typhoid fever. And in this class may be arrayed about all the agents that have won repute in treating this malady. Beginning with Wood's spirits of turpentine, still unequalled for the emergency for which he advised it, the hydrochloric acid, iodine, carbolic acid, sodium benzoate, and the whole list of more recent antiseptics, all the agents that have been vaunted as remedies for this malady have been of the antiseptic group.

None of these has given the writer as good results as the sulphocarbolate of zinc. I have now employed this remedy as a specific in typhoid fever for nearly a quarter of a century, so that my views are assuredly not hastily jumped at. As soon as the bowels have been cleared of their contents begin giving the sulphocarbolate, gr. j. to v. every hour, till the stools are deodorized. Some take this with no difficulty; with others some gastric irritation ensues. The addition of bismuth subcarbonate or subnitrate, and of saccharated pepsin, or peptenzyme, two to five grains to each dose, renders the sulphocarbolate non-irritant. This may be given in powder or capsule. After the stools have become inodorous the doses should be diminished to a quantity just sufficient to keep down the odor. About forty grains of the zinc a day are usually required at first, and half this dose subsequently. Some cases require more, but usually this is because the bowels were not first emptied. Many physicians have a superstitious dread of moving the bowels in typhoids. It seems evident that the decomposing matters there are not conducive to the well-being of the affected tissues, especially when ulceration has opened up a way to the deeper layers of the intestine. That surgical cleanliness cannot be secured in the bowel we well know; but that is no reason for neglecting to make the canal as clean as we can. After all, it is not possible to make the skin actually bacteria-free, but he would be a bold man who would therefore do away with all attempts at asepsis.

The results following the deodorization of the stools in this manner are among the most striking obtained in the practice of medicine. The fever falls a degree or more; the head-

ache and backache subside; the diarrhea, tympanites and abdominal pain cease; the hebetude and nocturnal delirium vanish; the tongue grows moist and loses its distinctive typhoid appearance; in a word, about a third or more of the symptoms totally disappears when this has been done, and the case is reduced to the category of mild or even abortive forms, and is easily managed. The proportion of abortive cases is increased in direct proportion to the early and efficient application of this treatment.

As in other fevers the temperature may be moderated by the use of aconitine, or even veratrine if the secretions are not free; the heart may require digitalin or the arsenite of strychnine; restlessness usually indicates imperfect antisepsis, or may require the addition of a little zinc valerianate, a grain or two a day. The occurrence of pneumonia calls for strychnine arsenate in full doses, with turpentine externally and frequent change of posture.

The sulphocarbolate is emphatically not a remedy for ulceration or hemorrhage in the latter stages. Its early and well-directed administration prevents such occurrences, but when they have occurred there are other better remedies. The writer clings to the spirits of turpentine, as the best means of stimulating the vitality of the weakened tissues on the point of falling into sphacelus. Give in doses of five to twenty drops every hour, in emulsion or capsule. The salts of silver also give good results here.

If hemorrhage occurs draw the blood away from the open vessels by flushing the skin with atropine, and give ergotin, or hydrastine, or stypticine, with silver nitrate or full doses of turpentine, till the hemorrhage is controlled and the bleeding vessels healed. I will frankly admit that my experience with these emergencies is very limited and ancient, as since adopting the sulphocarbolate treatment I have scarcely seen a case except in consultation.

As to the diet of typhoid there is much to say. The almost universal practice is to feed on milk. Even if this is secured and kept in a perfect condition it is objectionable, from its liability to form hard curds in the bowels, and to sour. It is better to feed the patient on meat broths, the raw white of egg in cold water, raw fresh fruit juices, and one of the prepared meat almumins, with coffee—and plenty of water. This is necessary to keep the system flushed and the debris washed out. Give the food at four-hour intervals with a fluid half way between, like coffee or fruit juice, and prescribe the number of ounces to be taken at each feeding. Whether the patient takes one or sixteen ounces makes a difference; though the nurse may simply record that the patient "took milk."

During convalescence there is a special call for remedies that increase the toxicity of the tissues, and restore the blood to its normal condition. Nuclein solution is by many given throughout the whole course of the attack, to reinforce the leucocytes; and I am not prepared to combat this idea. It has seemed in the cases in which I have given this remedy that the other treatment had a better effect, and that the debility and emaciation were less. Berberine answers a good purpose during convalescence, with the phosphate of iron. Both should be administered in small and frequent doses to get the maximum effect without irritating the delicate stomach. Throughout this period the bowels must be kept clear and clean, and the diet carefully guarded as long as soft stools continue. Autotoxemia is very easily induced at this time and the effects are more disastrous than when the patient is in ordinary health as at the beginning of the attack.

Finally let me call attention to the extreme importance of putting the sick room, house and surroundings in perfect hygienic condition and keeping them so during the course of the attack. This removes the principal cause of malignancy. The stools should be passed into a vessel containing *fresh* whitewash and allowed to stand in it for at least an hour to allow perfect destruction of the *materies morbi*. Were this done in every case of typhoid fever that malady would in a few years be a thing of the past.

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NOVEMBER, 1903.

MR. EDISON'S WISDOM.

The lay press is showing a lively interest at present in the possible injuries that may result from the use of the *x*-rays. The published descriptions of Mr. Edison's injuries have had enough of the indefinite and mysterious in them to thoroughly alarm many individuals who have been treated successfully with the Röntgen rays but who now are tormenting themselves and their physicians with endless questions regarding the dire results that may follow in later years. Mr. Edison's statements have naturally received widespread attention and have been accepted without reserve, by the average individual who does not consider the first fact

that though Mr. Edison is an authority on the physics of the x-rays, he is not prepared to pass judgment on physiological or pathological processes in the human body.

The probability that any individual, physician or layman, will correctly interpret the significance of his own subjective sensations is not large, and Mr. Edison's theories and conclusions regarding the influence of the *x*-rays on tissues will not readily be accepted by those who have followed the work of earlier investigators in this field. Supposing Mr. Edison's diagnosis of his own symptoms to be correct and that the latter be due solely to the influence of the *x*-rays, the fact remains that the manner in which he exposed himself to the rays five or six years ago would, in the light of our present knowledge, be considered extremely reckless to say the least, and results of such exposures should not be confused with those obtained from the diagnostic and therapeutic application of the rays as employed by skilled operators during the past three years or more. The danger of serious burns following too long or too frequent exposures to the *x*-rays has been recognized by intelligent workers in this field for seven or eight years. Other injurious effects, including atrophies, alopecia, pigmentation, and hyperkeratoses which sometimes terminate in cancer, have also been observed, though chiefly in workers in *x*-ray laboratories who had been more or less exposed to the rays daily for a considerable period of time. Since these possible effects of the rays have been recognized, much valuable time has been devoted by trained and experienced men to the development of a technique that would permit the use of the rays for legitimate purposes without danger to the patient. So successful have these efforts been, that in the hands of experts the *x*-rays are now used both for diagnostic and for therapeutic work with entire safety. It is of course understood that the *x*-rays should be employed by men only who have prepared themselves properly for the work, and that this or any other equally powerful agent is capable, in the hands of the ignorant, the careless or the venturesome, of doing great damage. Now that the possibilities of the *x*-rays are better known, even the men in greatest danger of injuries, the laboratory workers and experimenters (like Mr. Edison) in the physics of the rays, should be able to carry on their work with safety to themselves.

F. H. M.

ARE ALL DISEASES CAUSED BY PATHOGENIC BACTERIA OR THEIR TOXIC PTOMAINES? MUST EVERY DISEASE HAVE BUT ONE SPECIFIC BACTERIUM OR ITS PTOMAINE, FOR ITS CAUSE, REGARDLESS OF OTHER CLINICAL DIAGNOSTIC SYMPTOMS?

The above questions are suggested by the persistent and almost universal efforts being made by medical investigators, to find some bacterium or micro-organism in connection with every disease as its specific exciting cause. And there is manifested an equally persistent disposition to recognize only one micro-organism as the exciting cause of any disease. Thus having found the *bacillus tuberculosis* of Koch in a large majority of cases of pulmonary tuberculosis; the pneumococcus in pneumonia; the typhoid bacillus in typhoid fever, and the Klebs-Loeffler bacillus in diphtheria, these several pathogenic germs have been proclaimed as the only efficient exciting causes of the several diseases just named. And yet it was soon found by the same class of investigators that cases of each of the diseases named were occasionally met with presenting every clinical feature and symptom of tuberculosis, pneumonia, diphtheria, etc., in which neither tubercle bacillus, pneumococcus, nor diphtheric bacilli could be found, though some other pathogenic germs might be present. This instead

of leading them to the plain logical conclusion that any one of these diseases may be caused by more than one pathogenic germ, they were led to deny the genuineness of the exceptional cases by calling them pseudo or false cases of diphtheria, etc. By doing so they fail to preserve a clear line of distinction between the etiology and pathology, and thereby make the plain clinical diagnostic symptoms of a given disease, subordinate to the presence or absence of a specific microbe or its ptomaine as its cause. Though we find in our patient's fauces tumefaction of the tonsils covered by a characteristic membranous exudation, some enlargement of the lymphatic glands of the neck, and a continuous fever, constituting a perfect clinical picture of diphtheria, if no Klebs-Leffler bacillus can be found we are told that it is a case of pseudo or false diphtheria. On the other hand if we have a young patient with only a slight redness or congestion of the membrane covering the tonsils, but no membranous exudation and no fever, yet if the bacilli just named are present it is declared to be true diphtheria; and is registered in the list of cases and aids in increasing the ratio of recoveries. Some even go so far as to call the cause the disease, as when they say this patient has "the malaria," and that one has "septicaemia" or poison in the blood, without indicating which poison, or what pathological conditions exist.

That all diseases are morbid or unnatural conditions of the structure or function of some one or all of the structures and functions of the living body is very generally admitted. The coexistence of certain morbid conditions of a structure or organ constitutes an inflammation. The coexistence of morbid conditions of both structure and function throughout the whole body have been by common consent, called fevers or constitutional diseases.

It is quite as important that every well defined group of morbid or pathological conditions constituting a disease, whether local or general, should be carefully studied in all its stages, as it is to study their specific or exciting causes.

Indeed, both the disease and its causes should be studied with the greatest care, having special reference to the influence of the latter on the several stages of the former, and the channels through which they are either eliminated or neutralized. Such studies should not be limited to the specific or specially exciting causes, but should equally include those of a predisposing character. For there is much proof that in some of the most important and fatal diseases having pathogenic bacteria for their direct exciting causes the natural vital resistance of an individual in good mental and physical health, with healthy surroundings, will successfully resist the influence of a bacterial exciting cause. But let the same individual be subjected to continuous mental depression from grief or anxiety, or to daily confinement in uncleanly and ill-ventilated rooms and in a few months we find him yielding to the malign influence of some pathogenic germ. This is well illustrated by the history of pulmonary tuberculosis. So widely are the tubercle bacilli diffused in this country and Europe that it is safe to assume that not one per cent of the adult population have escaped contact with such bacilli, either in rooms containing them or with persons suffering from the disease. And yet more than half of the human family live and die without any sign of pulmonary tuberculosis. And of the large number who have taken it and died, seventy-five per cent had either been born with defective vital resistance, or had been persistently subjected to either such mental or physical depressing and degenerating influences as had predisposed, or pre-

pared them for easy victims of the ever present bacillus. Consequently while we study with due diligence all pathogenic bacteria, if we would succeed in their destruction we must give equally diligent attention to the vital resistance of the individual and the influences that impair it.—*To be Continued.*

N. S. Davis.

REMARKABLE OCCURRENCE AT DUNNING.

Pull has heretofore had such a stronghold on Cook County Institutions that no position of responsibility was to be obtained without it. The conditions at Dunning appear to have become so intolerable that a change was absolutely necessary. Chicago medical men of high standing appear to have had much to do with bringing this about. Drs. Billings and Patrick have given much valuable time to this work. Dr. Patrick in discussing the subject recently said:

"The administration of the Cook County institutions has improved in a most important particular. All the Dunning officials, with the exception of the superintendent, are under civil service, and as for the superintendent his position differs considerably from that of his predecessors for a medical man without pull, on the mere recommendation of medical men equally without pull, has been appointed to the most important administrative position in the service of the country."

LAWYERS EXAMINED AND AUTHORIZED TO PRACTICE IN ILLINOIS BY THE SUPREME COURT.

On Saturday, October 17, 1903, the Supreme Court of Illinois re-appointed William B. Wright of Effingham and N. W. Branson of Petersburg, as members of the board of law examiners for a period of three years. It does not appear that the Governor was consulted in this very important matter nor has any complaint been made by him or any one else of the usurpation of prerogatives of the executive by this procedure. If the representative body of lawyers appoint examiners who represent them in licensing attorneys it would seem that the representative body or bodies of physicians should have the same right with regard to the licensing of physicians. In New York and many other states medical men have the same relation to the commonwealth as the lawyers. It should be so in Illinois.

COUNTY SOCIETIES ATTENTION.

At the last meeting of the Judicial Council the editor was authorized to furnish the officers of all county societies affiliated with the State Society with stationery bearing the seal of the State Society, etc., in two colors, and the names of officers of the Local Societies at wholesale cost price. Secretaries will please send in orders at once. The prices will be:

100 sheets $1.25; 50 envelopes 75c.
200 sheets $1.75; 100 envelopes $1.00.
500 sheets $2.25; 200 envelopes $1.35.

MORTALITY STATISTICS OF ILLINOIS CITIES FOR SEPTEMBER, 1903.

	Population.	Death Rate.	Diphtheria.	Scarlet Fever.	Measles.	Smallpox.	Typhoid Fever.
Chicago	1,885,000	13.34	53	5	0	1	82
Springfield	40,000	9.00	1	1	0	0	1
Jacksonville	16,000	10.60	1	0	0	0	3

The death rate of Springfield has been unusually low during the past three months.

Correspondence.

WANTS RECIPROCITY BETWEEN THE STATES.

WILL DR. JONES GIVE HIS AUTHORITY?

On account of health I have to spend the winters on the sea coast of Jackson County, Mississippi, where I am much solicited for prescriptions to ailing friends and their friends, doing so under constant apprehension of trouble. Finally I applied to the Board of Health for at least temporary

license, and was assured in answer that non-residents could not obtain license to practice medicine under any consideration. I am regularly licensed by the Illinois State Board of Health and graduated in medicine from the St. Louis Medical College, Class of 1861, and have my diploma. Now I see in your valuable Journal, page 144, Legal Status of the doctor, that in many other states, and Mississippi, the doctor may, though non-resident, have the privilege to practice within their borders, so they do not open an office. Now will you please oblige me by yes or no. *Is this reliable?* and can I *depend* on it? or are any previous formalities required?

Answer will greatly oblige,

Golconda, Ill., Oct. 19, 1903.

J. A. Koch, M. D.

WESTERN SKEPTICISM.

Editor Illinois Medical Journal,

Dear Sir: I have been receiving your valuable Journal for the past two years. A case which interests me very much is found on page 293 of your October issue, Dr. L. A. Ferry of Geneseo, has cured a case of *Eczema Papillomatosum* by using the static x-ray through a 13-inch soft tube. I have heard of the x-ray curing everything from pruritus ani to carcinoma of the pineal gland but up to date had never heard of a case of *Eczema Papillomatosum* being cured by its use.

The last case of eczema I cured died the next day after I *cured* him.

Had I used the x-ray he probably would have come to life again for the doctor says the hairs on the man's face *died* and later on they grew again.

I am just starting on my regular course of lectures on Dermatology and will be obliged to change my notes so as to take in this *Papillomatosum* variety of eczema.

True as the doctor says the field for the x-ray seems very large, in fact in Colorado we would call it *range* for there doesn't seem to be any inclination on the part of the x-ray fadists to put any fence around it. I would thank the doctor if he would give us a list of diseases *not* curable by the x-ray for at the present rate I believe they are going to "keep the plug and return the chew."

In Colorado we have survived Populism, Eddyism and Osteopathy and with a little patience and epsom salts I believe we may outlive this latest fad. If all that is said and written about this fad were true, why not have an x-ray sanitarium for the poor and a radium sanitarium for the rich and as soon as the babies got rid of their coat of vernix caseosa give them an x-ray or a radium bath so that they would always be free from disease for surely an inch of prevention would be better than 13 inches of cure through a soft tube.

To a man up a tree is looks as though inside of a few years, all the armamentarium a physician will need will be an x-ray buggy case and an elongated gall bladder.

Anxiously yours,

J. M. Blaine.

Denver, Colo., Oct. 15, 1903.

ACTION OF THE MISSISSIPPI VALLEY ASSOCIATION ON DANGEROUS TOYS.

To the Editor:

At the 29th Annual Session of the Mississippi Valley Medical Association held at Memphis, October 7-9, the following resolutions were adopted:

In view of the fact that more than 400 deaths from Tetanus occurred following the 4th of July celebration of 1903, as shown by the statistical report elaborated by Dr. S. C. Stanton, of Chicago, and published in the Journal of the American Medical Association of August 29, 1903, the great majority of which might have been prevented had proper precautions been taken; therefore

Be it Resolved, That the conclusions which follow, as offered by Dr. Stanton in a paper presented before the Association, at the above meeting, be endorsed as the sense of the Association, and further

Be it Resolved, That the Secretary be instructed to forward a copy of these resolutions and conclusions to the Medical Press, Associated Press, and the Secretaries of the several State Medical Societies, with the request that they publish same and take suitable action thereon.

1. Enforcement of existing laws regarding the sale of Toy Pistols and other dangerous toys.

2. Enactment of laws by the nation,

states and municipalities prohibiting the manufacture and sale of Toy Pistols, Blank Cartridges, Dynamite Canes and Caps, Cannon Crackers, etc.

3. Open treatment of all wounds, however insignificant, in which from the nature or environment there is any risk of Tetanus.

4. Immediate use of Tetanus Antitoxin in all cases of Fourth-of-July wounds, or wounds received in barnyards, gardens, or other places where Tetanus infection is likely to occur.

5. As a forlorn hope, the injection of Tetanus Antitoxin after Tetanus symptoms have appeared.

Henry E. Tuley M. D., Secretary.
Louisville, Ky.

OBITUARY.

DR. L. M. SCHLESINGER.

Permit me to report the lamentable death of one of our colleagues:

Dr. M. L. Schlesinger died October 8, 1903. Born in Russia 37 years ago; graduated at the University of Moscow in 1889; served two years as interne in one of the Moscow hospitals; located in Chicago, Ill., in 1892, where he remained in practice up to his death. The doctor was a member of the Illinois State Medical Society, the Chicago Medical Society and the Northwest Branch—Chicago Medical Society.

Louis J. Pritzker,
Official Reporter.

Local Societies.

Fayette County Medical Society. In last months Journal in reporting the result of the trial of the case of Dr. L. L. Morey, who was sued for malpractice, the statement was made that Dr. C. A. Higinbotom had charged the plaintiff $200 for removing some necrotic bone from the index and little fingers. That statement was based on the evidence of the plaintiff while on the witness stand and is a matter of court record. Dr. Higinbotom himself was not put on record on that point during the trial but informs me and has shown me his books to substantiate his statement that he charged $111.50 for the operation and subsequent treatment and not $200 as stated by the plaintiff.

Asa L. T. Williams,
Official Reporter.

The Pulaski County Medical Society held its regular quarterly meeting at Mound City on Tuesday, October 6th.

The secretary not being present the president appointed L. M. Winsted, secretary pro tem. The following members were present: J. F. Hargan, W. C. Rife, L. F. Robinson, L. M. Winsted, R. M. Fulkerson, J. B. Mathis, Sr. and C. B. Powell. The first paper read was **The Uterine Curette,** its use and abuse by W. C. Rife, which was ably discussed by all the members present, some valuable points being brought out. The next paper was **Acute and Chronic Diarrhea in Children** by J. B. Mathis, Sr., which was appreciated by the society and generally discussed by those present.

Our next regular meeting will be held in Mound City on Tuesday, January 5th, 1904.

A. W. Tarr,
Official Reporter.

The Sangamon County Medical Society held its regular monthly meeting, October 12, 1903, in the Supervisor's Room at the Court House, with A. L. Brittin, president, in the chair.

The minutes of the September meeting were read and approved. The application of C. P. Colby was read and he was elected to membership.

The applications of N. B. Gardner, of Loami, and J. V. White, of Auburn, were read and referred to the Board. Bills of Phillips Bros. and Secretary-Treasurer amounting to $3.50 was allowed and ordered paid.

After some discussion, it was decided to have a banquet at our next meeting, it being the annual, and the President and Secretary were authorized to arrange for same, the price not to exceed $1.00 per plate.

There was no literary program, but the evening was pleasantly spent by talks, and clinical cases of heart lesions, after which the society adjourned.

Percy Louis Taylor,
Official Reporter.

The Richland County Medical Society met at the City Hall in Olney at 8 p. m., September 29, 1903. The meeting was called to order by President Thompson. Minutes of previous meeting read and after correction were approved. A motion was made and carried for the president to appoint a committee to plan for and make all necessary arrangements for a banquet for the members of the society and their ladies. The banquet to be in October. Doctors Ziliak, J. C. Weber and Telford were named as the committee. The president named A. L. Ziliak as a member of the legislative committee from this county. G. T. Weber read an excellent paper on **Nephritis** which was discussed at length, nearly all present taking part in the discussion. The committee on program announced J. P. Soliss as the essayist for the next regular meeting in October and his subject to be **Rheumatism.** The society then adjourned subject to the call of the banquet committee.

A. T. Telford,
Official Reporter.

The Vermilion County Medical Society held its opening meeting and smoker, October 12, 1903.

Following our summer vacation of three

months the Vermilion County Medical Society was called to order by the President, H. F. Becker, at 8:30 p. m., in the City Hall.

The minutes of the July meeting were dispensed with.

W. K. Newcomb of Champaign was introduced and gave a comprehensive talk on the re-organization of the profession and the relations of the County to the State organization. The talk was thoroughly appreciated and was of undoubted benefit to our local society.

W. F. Burres of Urbana called our attention to the fact that Vermilion County is a part of the fifth district but for the present was going under the name of the Aesculapian District and suggested that it might be desirable for us to affiliate with the Aesculapian Society. A motion to this effect was carried unanimously. A motion was made to invite the Aesculapian Society to meet in Danville in May. Carried.

The following names was presented for membership: Effie Current, G. M. French, Geo. Williamson, of Danville; G. W. Hughes, of Armstrong; P. H. Fithian, of Fithian; O. W. Michael, of Muncie; A. C. Johnson, of Sidell.

E. E. Clark,
Official Reporter.

The East St. Louis Medical Society met in regular session on October 5th, 1903, with C. F. Whitmer, president, in the chair, and C. W. Lillie, secretary; and W. E. and W. S. Wiatt, Rendleman, Campbell and Collins, members, present, and Dr. Geo. A. Stewart, a guest.

The minutes of the last meeting were read and approved.

W. S. Wiatt reported a case of **appendicitis** in a man twenty-four years of age. The history showed this to be his first attack. He was first seen in the evening when he had a temperature of 100 F.; pulse 80; vomiting persistent; uncontrollable. He was sent to the hospital and operation done the next day. The appendix was found to be gangrenous and sloughing with no evidence of any protective adhesions. A few hours delay in operation would have been fatal.

Another case reported by Wiatt was in a child in which no history of a previous attack could be given. Child was first seen at five o'clock on Sunday. Temperature 100 F.; pulse rapid; did not complain of pain at this time; abdomen rigid. On being sent to the hospital the temperature rose to 104, and in a few hours to 105. Operation was done on Monday. The appendix was ruptured and embedded in a gangrenous mass of omentum. The gangrenous mass was free in the abdominal cavity, there being no effort to wall off the diseased part. No sutures were used, the wound being left open to heal by granulation which it did in two weeks. The temperature fell in eighteen hours from 105 to 99 F. Both these cases illustrate the necessity for early operation.

Campbell made a partial report on a case of **amebic dysentery** and presented a specimen of the ameba.

Other cases of minor interest were reported.

A paper on **Tuberculosis** by Cannady is the important feature for the next meeting.

C. W. Lillie,
Official Reporter.

The Aux Plaines Medical Society had a very pleasant meeting in the Phoenix Hospital, Maywood. The one important matter to come before us was the changing of the constitution to conform with that of the Chicago Medical Society. As you know we are simply one of the local divisions of the Chicago Medical Society.

All members of the Chicago Medical Society residing in the district bounded by West 40th street, on the east by North ave., on the north by 12th st., on the south and west to the county line, become ipso facto members of this society. Our old constitution, copy of which I send you enclosed, has been so modified as to conform to our new condition.

Our annual meeting with election of officers is now held on the fourth Friday of the month of September. The following officers were elected for the current year: Dr. W. S. Pickard, Maywood, president; Dr. Ellis Kirk Kerr, Oak Park, vice president; Dr. W. R. Livingston, Maywood, secretary and treasurer; Dr. W. F. Scott, Melrose Park, counsellor to the Chicago Medical Society.

The annual address of the president was read by Dr. Pickard, entitled **Relation of the Physicians to the Public School** showing the necessity for physicians beginning the prevention of grave future disorders of children during school age. Showing the necessity for individualizing pupils rather than the classing of masses of children into a fixed group without special attention to those at either extreme.

An address was given by Prof. Krauscup of the child study department of the Chicago Public Schools, showing the work and results of his department in physical and psychological research. These papers will no doubt appear in some journal in full.

I might add as a matter of medical news, that Dr. W. F. Scott of Melrose Park, returned from Europe October 5th.

W. R. Livingston,
Official Reporter.

The Fulton County Medical Society held its sixth annual meeting in the Churchill House parlors in Canton, and was called to order by Vice President Scholes.

The following members were present: Drs. Scholes, Chapin, Robb, Zeigler, Ragan, Oren, Miller, Hayes, Coleman, Shallenberger, Heise, Sutton, Nelson, Rogers and Ray.

Minutes of May, July and last annual meetings were read and approved. The following officers were elected: President, P. S. Scholes, Canton; First Vice President, J. Connelly, Farmington; Second Vice President, S. A. Oren, Lewistown; Secretary and Treasurer, D. S. Ray, Cuba; Necrologist, Dr. Miller, Canton; Membership Committee, W. T. Zeigler, Canton; Censor, W. E. Shallenberger, Canton; Delegate to State Meeting, P. S. Stoops, Ipava.

The following amendments were duly

adopted, proper notice having been given at the April meeting.

Article 4. "The annual dues shall be one dollar for associate members and one dollar and fifty cents for affiliating members."

Sec. 1., Art. 5. "Membership shall consist of affiliating members, those who desire to affiliate with the Illinois State Society, and associate members, those who do not desire to affiliate with the State Society."

Drs. Richards of St. David and S. L. Oren of Lewistown, were elected to membership.

Drs. Robb, Oren and Rogers were appointed to select next meeting place and reported in favor of Lewistown for the December meeting. Report adopted.

Secretary's report showing a balance of $10.25 on hand was read and approved.

Dr. Regan presented a paper on **Infected Corneal Ulcer** and Dr. Robb presented one on **Gall Stones.**

The following dues were collected:

	County Dues.	State Dues.
E. W. Regan	$1.00	$1.50
H. H. Rogers	3.00	
W. E. Shallenberger	1.00	1.50
E. S. Nelson		1.50
W. T. Zeigler	1.00	1.50
Dr. Sutton	1.00	
L. R. Chapin	1.00	1.50
P. S. Scholes	1.00	1.50
S. L. Oren	1.00	
Helen Heise	1.00	1.50

D. S. Ray,
Official Reporter.

Jo Daviess County Medical Society. The regular quarterly meeting of the Jo Daviess County Medical Society assembled in the Masonic Hall, in Stockton, Ill., Thursday, September 24, 1903, at 1 p. m. The members present were Drs. Stafford, Godfrey, Gunn, Lewis, Miller, Egan, Hutton, Nadig, Smith, I. C. Eade, Kreider, Keller, Bucknam, Wright, Smith, with Drs. T. C. McGonagle, Carl Wagner and C. H. Searle, of Chicago and W. O. Ensign of Rutland, Ill., councillor of the Second District, also present.

Dr. Carl Wagner of Chicago, was then introduced who exhibited some very interesting and instructive specimens. The first was a patient who had been operated on for **Sarcoma of Thigh** four years ago, doing a hip joint operation and his method of performing the same. He also exhibited three specimens of his modified form of **Porro Operation.** This modification consisted or removing the uterus with everything in situ and the unique method of controlling hemorrhage; other specimens as **Tumor of Frontal Lobe of Brain, Double Uterus with Double Cervix and Partial Vaginal,** and several more very interesting specimens together with full symptoms and operative course.

Dr. W. O. Ensign, of Rutland, being present to pay his annual visit as counsellor spoke at length in the interest of the County, District and State Societies, praising our society for the good work that is being done in this northwestern corner of the State.

According to previous arrangements each doctor was accompanied by his wife or sweetheart, and at this hour (4 o'clock) they were invited to the dining rooms of the Great Western Hotel where a sumptous dinner awaited them. Each did justice to his part and a number of toasts were listened to in which the president, Dr. G. E. Miller, acted as toastmaster. Dr. Godfrey responded to "Our Guests;" Dr. Egan to "Scientific Medicine;" Mrs. T. J. Stafford, "The Physician's Wife;" Dr. D. G. Smith, "The Country Doctor," and Mrs. S. G. Kreider sang several very beautiful solos. The visiting members being called on responded with suitable words, and all enjoyed the occasion to the utmost. During the scientific meeting the ladies were entertained by the ladies of the Stockton physicians.

At 7 p. m. the society again reconvened and Dr. Stafford presented a case of **Neuritis** in the hand, as the cause was unknown, a specific treatment together with a regular hygienic treatment was prescribed. Dr. D. G. Smith presented a well marked case of **Hodgkin's Disease** in a woman of 24. The only treatment advised was X-Rays.

The president then exhibited a typical case of **Phlebitis** in his right arm. The cause could not be accounted for and the treatment prescribed was bandaging on straight splint and elevation.

A vote of thanks was voted to Dr. Wagner for his presence and kindness in demonstrating these valuable topics. Also the thanks of the society to the Stockton members and their ladies for the royal treatment they gave the society on this occasion.

The society adjourned to meet in Elizabeth, January, 1904.

D. G. Smith,
Official Reporter.

The St. Clair County Medical Society held its regular quarterly meeting at Priester's Park on October 1, 1903, with President Lillie in the chair and following members present: Lillie, Hansing, Hilgard, Gunn, Campbell, W. E. Wiatt, Kerchner, Wangelin, Irwin, Kohl, Rendleman, Nifong, Zimmerman, W. S. Wiatt, Rembe, Starkel, Fulgham, Whitmer, Adams, Hagarty, Raab, H. Hertel, Wilhelmj, and as visitors Drs. Heely, Collins and Cannady.

The minutes of the preceding meeting were read and approved.

A roll call showed all the officers excepting Starkel and Rembe to be present. Both gentlemen came in afterwards.

Three excellent papers were the feature of the meeting; one on **How to Conduct a Labor Case,** by Dr. Nifong; another on **Fractures of the Lower Extremities,** by Dr. Campbell; and the third by Dr. Irwin, entitled **The Treatment of Typhoid Fever.**

In discussing Dr. Nifong's paper, Dr. Campbell stated that it was one of the most complete papers on the subject and that he agreed fully with the essayist.

Dr. Zimmerman reported a very interesting case where forceps had been applied with a distended bladder, resulting in two tears, each as long as the corresponding blade of the forceps. The tears extended into the bladder, but a large calculus present prevented the urine from

dribbling into the vagina and it passed through the urethra as if the bladder had been intact.

Dr. Wiatt said it was very important to know whether patient after labor was passing her water freely or not, and related a case where on the third day after labor he found an enormously distended bladder containing five pints of urine, in spite of the fact that the nurse had reported every day that the patient was passing water.

In discussing Dr. Campbell's paper, Dr. Portuondo said that the paper was so complete that no criticism could be offered and any comment was unnecessary, as it would only result in repeating the statements made by the essayist.

Dr. Starkel commended the paper very favorably, especially the stand taken by the essayist against the too early use of plaster of paris dressings.

Dr. Zimmerman asked how soon did Dr. Campbell allow his patients to walk on crutches. Dr. Campbell said that after the first week, and that his best case had walked from the first day.

In discussing Dr. Irwin's paper on **The Treatment of Typhoid Fever,** Dr. Nifong asked whether the essayist gives whiskey all the time. On being answered in the affirmative he objected to it on the plea that it would irritate the inflamed mucous membrane of the intestines.

Dr. Starkel stated that he used the cold bath and nothing else. He is opposed to the coal tar products, which he considers worse than the disease, and relates the very severe depression produced in a case where he had used a very small dose of phenacetin to reduce a temperature of 105° which the cold bath had failed to reduce. Does not believe in the use of carbolic acid. Has tried Salicylate of ammonium in one grain doses three times a day without any apparent effect.

Dr. Kerchner asked whether the essayist uses any of the beef extracts on the market and on being informed that preference was always given to the home-made beef tea, Dr. Kerchner stated that he was also in favor of that.

Dr. Hilgard stated that he had used acetozone in two cases with very gratifying results.

Dr. Fulgham said that he gave a man in the fourth week of typhoid fever 2 or 3 grains of phenacetin with such results that for a time he thought he might lose the case.

Dr. Irwin in closing, said that in proper doses phenacetin was very useful in treating young children with typhoid fever.

Dr. Rendleman reported a very interesting case. Last July he was called to see a black woman, 30 years of age, who had been assaulted that morning at 7 o'clock. She lost consciousness for awhile, and on recovering walked for a distance and fell down, losing consciousness again. She bled very profusely. At 2 p. m., she regained consciousness. There were four scalp wounds, fracture of the skull and compound fracture of both bones of the forearm. There was amnesic aphasia. Patient was trephined, a clot removed from the brain and in three hours all symptoms of aphasia disappeared. The fracture of the forearm healed very well and movements of the forearm were very good and apparently everything was all right but on making an x-ray examination he found that the fragments were not in a straight line.

Dr. Whitmer reported a case of fracture where everything appeared to be in good condition, no displacement could be felt, but on making an x-ray examination the bones were found to overlap each other.

The applications of Drs. E. W. Cannady and C. Loeb were received and being favorably reported upon by the board of censors they were elected to membership by acclamation.

Bills amounting to $19.93 were allowed.

On motion of Dr. Portuondo, Dr. Lillie was elected by acclamation to represent the St. Clair County Medical Society in the National Legislative Committee of the American Medical Association.

On motion of Dr. Gunn, the treasurer of this society was declared exempt from paying the annual dues.

Dr. Hilgard, seconded by Dr. Hansing, moved that Dr. D. C. Heely be elected an honorary member, and the motion was approved by a unanimous vote.

Treasurer reported cash on hand $50.74.

A motion by Dr. Hansing, seconded by Portundo, that the **Clinique** be continued the official organ of the Society and that every member be made a subscriber, the society to pay the cost, was approved.

The society then adjourned to meet again the first Thursday in January.

B. H. Portuondo,
Official Reporter.

The Southern Illinois Medical Association will hold a meeting at Marion, November 5 and 6. A. C. Bernays, of St. Louis, Mo., will give a clinical demonstration of the radical cure of hernia. The following program will be given:

Parenchymatous Nephritis, Pathology and Treatment, W. A. Sim, Golconda.

Summer Diarrhea of Children, Geo. T. Weber, Olney.

Malaria and Its Causes, L. F. Robinson, Ullin.

An Unique and Agonizing Gallstone, W. F. Grinstead, Cairo.

Errors of Refraction, A. C. Ragsdale, Metropolis.

Conservative Surgery by the Country Doctor, T. L. Granay, Irvington.

Report of Case, Prof. G. H. French, Carbondale.

Pernicious Malaria, Etiology, Diagnosis and Treatment, M. L. Winstead, Wetaug.

Pulmonary Tuberculosis, with Special Reference to its Etiology, C. W. Lillie, East St. Louis.

Report of Gunshot Wound of Face, E. W. Brooks, St. Elmo.

Cranial Injuries, with Report of Three Cases, G. A. Stewart, Metropolis.

Typhoid Fever, G. C. Crandall, St. Louis, Mo.

When Shall We Drain the Abdominal Cavity, W. S. Wiatt, East St. Louis.

Near-sight in School Children; Its Cause and Prevention, J. E. Jennings, St. Louis, Mo.

Clinical Microscopy, A. A. Bondurant, Cairo.

Non-penetrating Wounds of the Abdomen

with Report of Cases, J. L. Wiggins, East St. Louis.

Uterine Hemorrhage and Its Treatment, J. R. Coleman, Paducah, Ky.

Amputations, with Special Reference to Pressure-Bearing Stumps, M. L. Harris, Chicago.

Catarrhal Affections of the Upper Air Passages and How to Treat Them, G. C. Adams, East St. Louis.

Report of Two Unusual Cases, H. L. Gault, Sparta.

Organization and Ethics of Physicians, D. D. Hartwell, Marion.

History of Medicine, with Reference to Treatment Based Upon Rational Thought, not Empiricism, J. W. Armstrong, Centralia.

Some Difficulties in the Diagnosis of Intra-Abdominal Lesions with Report of Cases, Carl E. Black, Jacksonville.

An informal reception will be tendered the visiting physicians by the local profession on the night of November 5. Indications now point to a good attendance and interest.

Edgar E. Fyke,
Official Reporter.

The Mercer County Medical Society convened in the Masonic Hall, at New Windsor, Oct. 13, 1903, at 10:30 a. m., with President H. H. Fletcher in the chair; A. N. Mackey, secretary-treasurer and members Emmerson, Sherwood, Hay, Carter, Rathburn, McClanahan, Cox and Ryan present; also J. F. Percy, visitor from Galesburg, representing the State Society.

Dr. E. J. Hay, of Millersburg read the following interesting paper on **Trachoma,** which brought out many points of interest on the discussions that followed:

The name Trachoma originates from the Greek word Tpaxos, meaning rough.

Trachoma is an inflammation of the conjunctiva which arises from infection and produces an infectious purulent secretion.

It is distinguished from Blennorrhoea by the characteristic hypertrophy of the conjunctiva and its chronic course.

In fact it received its name from the roughness of the conjunctiva.

This hypertrophy of the conjunctiva occurs under two forms: the first consists in the development of papillae. These are small eminences newly formed on the surface of the conjunctiva which gives it a velvety appearance or, if the papillae are large the conjunctiva appears dotted with coarse granules or raspberry like projections. In this form there is no thickening of the conjunctiva as the meibomian glands are easily seen under the hypertrophied conjunctiva.

This papillary hypertrophy of the conjunctiva is only found in the tarsal conjunctiva and most clearly noticed on the upper lid which, on this account must be everted to make the diagnosis of this form of trachoma.

The velvety appearance in this form is due to the increase in size of the hypertrophied conjunctiva, it being thrown into folds between which corresponding deep clefts are formed, and on cross-section these folds appear as papillare. The connective tissue forming the papillae is stuffed with round cells and the surface of the papillare is covered with greatly thickened epithelium which is continued into the depressions, and a cross-section gives it the appearance of a tubular gland. Such they were once considered. In some cases of this form of trachoma there are a few new gland formations.

The second form of trachoma is marked by the presence of trachoma granules.

They are gray or yellow, translucent, nearly round bodies which lie just beneath the superficial layers of the conjunctiva.

They are found most abundant in the folds of transition in which they are located in such numbers that when the lower lid is drawn down the fold projects as a thick, stiff swelling at the top of which the granules very often appear in rows. These granules can scarcely be seen in the conjunctiva tarsi because they are very small in this location and cannot push out the conjunctiva and are hidden by the papillae. Occasionally the granules can be seen in the semilunar fold as well as elsewhere on the conjunctiva.

In some cases of trachoma only one of these two forms of hypertrophy is noticeable, but generally both are and in the same eye.

The conjunctiva discharges a purulent secretion the quantity of which is greater in fresh cases and those associated with symptoms of irritation, as of a foreign body in the eye.

In older cases and those that run a very slow course the amount of the secretion is very scanty.

The course of trachoma. The hypertrophy of the conjunctiva gradually increases till it has reached its height (not the same in all cases) and then disappears again as gradually as it came leaving a cicatricial condition of the conjunctiva with contraction. In this manner is the specific morbid process brought to an end. In this way are the lasting contraction cicatrices formed.

The greater the degree of hypertrophy of the conjunctiva the greater is the contraction of the conjunctiva, and the longer the course of the disease. Sometimes running a course of several years duration. So also the more severe the disease the greater the severity of the contraction of the conjunctiva, and the worse the sequellae. The beginning of the formation of cicatrices is shown by a few narrow whitish fine bands, which can be seen in the reddened and thickened conjunctiva. These bands become more numerous and, forming a network till finally they may cover, or include, a considerable portion of conjunctiva giving it a pale, thin and smooth appearance. This process is first and best noticed in the tarsal conjunctiva.

If the hypertrophy is in spots, as it were, of the conjunctiva, there is where the cicatricial contraction will be seen.

In the conjunctiva of the fornix the same process takes place, only the external phenomena are different owing to the difference of conjunctiva. Here in place of the cicatricial contraction bands we see the swellings of the process of the disease become thinner and flatter, showing a bluish tint to the cicatrix. This process results in the condition known as pannus. It may be so extensive as to cover the

cornea or only partially so. If accompanied by irritation from outside sources will give rise to corneal ulcers and they in turn to Iritis.

In mild complications the pannus will often disappear of itself. In others leave an opacity of the cornea.

In the light cases and those that come under treatment early we have perfect cures. In all others we may expect to see some impairment of the eye. The impairment most frequently found is some distortion of the lids with faulty placing of the cilia. This distortion is produced by the cicatricial contraction of the conjunctiva and the tarsus, the tarsus bending in so as to be convex anteriorly. This band is usually found over the artery that supplies the circulation to the conjunctiva and running the greater part of the length of the lid and near its edge. By pulling the lower edge of the lid inward the cilia are also turned inward and against the cornea, producing a condition known as trichiasis. If this distortion of the lid is very marked we have the condition which is termed entropion. The turning of entire border of lid inward. The turning outward or ectropion, is also a result of trachoma. It is caused by great proliferation of conjunctiva, pushing it away from the eyeball, and contraction of muscular fibres of the orbiculoris. This kind is only found in the lower lid.

The next most frequent impairment is what is termed symblepheron posterius. It is caused by a high degree of cicatricial contraction of the conjunctiva, causing the fold of the region of transition to flatten out completely, and the conjunctiva to pass directly from the lid to the eyeball. If the lower lid is pulled down with the finger, the conjunctiva stretches tightly in the form of a vertical fold between the lid and the eyeball. And if the lid is pulled down further the eyeball is pulled down with it. When the conjunctiva is very greatly contracted it loses its power of contributing through its own secretion to the moistening of the eyeball. In consequence, there is a feeling of dryness in the eye. The scanty muco-purulent secretion becomes thick and tough, afterwards, several dry places are noticed to which the lachrymal fluid does not adhere. This condition spreads till the conjunctiva is dry, hard and brittle. The lachrymal fluid becomes less and less and finally we have a cornea from previous pannus and ulcers becoming thicker, dryer and opaque; rendering the person affected badly blemished and blind forever. This condition is called xero-phthalmia.

The next impairment is corneal opacities. These are after effects of both pannus and corneal ulcers. The greater the connective tissue growth of pannus the thicker and more dense the opacity. Corneal ulcers upon healing always leave an opacity. Etiology, trachoma originates only from infection from another eye affected with trachoma. The greater the secretion the greater the chances of infection. Infection takes place generally by means of the finger or some of the articles of the toilet, as cloths, sponges, towels, handkerchiefs and bedding which are brought into contact with the infected eye. Naturally the greater the number occupying the same apartment the greater the liability of infection. It is most frequently seen among the poor and those living in low countries. It is especially prevalent among the Jews on account of their lack of cleanliness.

The symptoms of Trachoma are: Photophobia or sensitiveness to light, and sticking of lids together; also oedma of lids and conjunctiva, pain in the acute irritating cases and usual disturbance in the insidious ones. On examination we find the lid is partly closed due to photophobia and heavy lid, and upon everting the lids we may first notice the disease at the time when pannus is developing or even an ulcer forming. All acute irritating cases are very apt to come for treatment early.

Trachoma is a more or less self-limiting disease, but in self-limiting itself, it forms disastrous cicatrices. Generally speaking the more severe the case the longer it will last.

The treatment of trachoma. The indications for treatment are to relieve the hyperthophy and stop the secretions. To relieve the complications treat the disease itself and the complications will disappear. Copper sulphate is only indicated where the hyperthophy is marked and is to be continued but a short time and at greater intervals each succeeding application. A two per cent solution of nitrate of silver is much used, but care should be used in its application and especially when there are corneal ulcers and pannus to keep it away from the cornea. Do not bandage an eye while there is trachoma with any secretion for the infection will be more easily spread to adjacent tissues. In cases associated with ulcers of cornea and especially with Iritis instill into the eye a one-half per cent solution of sulphate of atropine every one or two days to keep the pupil dilated so there will not be the formation of posterior synechiae or adhesions. For the corneal ulcers there is no better remedy than an occasional application of iodoform and frequent instillations of a saturated solution of boracic acid. In cases resulting in extensive pannus use a 3 to 5 per cent infusion of Jequirity till an acute inflammation is started. Very often a complete removal of the pannus is the result. Of the sequelae trichiasis and entropion, as well as ectropion operative treatment alone suffices. For symblepheron posterius no treatment is successful. The same is the case with xerophthalmia except, to keep the eye moist with applications of milk, glycerine or some other mucilaginous substance.

But the treatment that has been most successful with me is the use first of solution nitrate of silver following it up with sulphate of copper, for a few times and then using thereafter alum. All the while having the patient make from four to six applications daily of a saturated solution of Boracic acid. In most cases a cure will be effected inside of six months. The chief barrier to this mode of treatment is the fact that the patient as soon as the irritating symptoms cease stops treatment thinking himself cured. The most satisfactory treatment however is expression of the papillae or granules, or both, by means of the forceps.

The best and most safe forceps is the Staf-

ford modification of the Knapp roller forceps. On this the roller is smooth.

For the anaesthetic apply cocaine hydrochlorate in the powdered form.

After perfect anaesthesia evert the lid and apply the forceps to the hypertrophied spots or papillae and granules and express the contents out of each. When all are expressed that it is possible so to do with this instrument, express the few remaining scattered ones with Prince's forceps. The whole operation will take but a minute or two. After expression apply a solution of Bicloride of Mercury, 1.500 by means of cotton on an applicator till the raw surface again bleeds. Then wash this off with a very mild solution of Boracic acid or distilled water.

The after treatment is the very frequent application of a saturated solution of Boracic acid.

In a week or little more, there is a perfect cure from trachoma.

The most important treatment in a prophylactic way is to practice untiring cleanliness on our part lest we convey the infection to some other eye, our own or of those we have occasion to touch.

Never touch an eye in practice without cleansing your hands both before and after doing so. Teach the patient to have his own linen, bed, towels, handkerchiefs, sponges, brushes and basin and other articles of the toilet and bath separate from that of the rest about him.

If only one eye is affected tell him how to prevent its infecting the other eye.

Also explain to him the importance of his own personal cleanliness and the dangers arising from this negligence of the same.

Explain to him the danger of its spreading and the severeness of the case and how much depends upon his following your directions.

Most important of all. Explain to him plainly and forcibly the way infection takes place that he may be constantly on guard not to transmit it to others.

An interesting and important paper was presented by Dr. F. D. Rathburn on Records and **Contagiousness of Typhoid Fever** and the vitality of the Typhoid Germ, which was taken up and thoroughly discussed.

J. F. Percy of Galesburg, was with us as State Councillor, representing the State Society and in his remarks gave many interesting points why we should organize. In conclusion he read us a paper on **Intestinal Obstruction** from the standpoint of the physician who first sees the case, which proved to be a rare treat as it included a specimen removed from the patient and the patient who was present himself, making a good clinic for the Society.

A. N. Mackey, Official Reporter.

The McLean County Medical Society met in the City Hall, at Bloomington, September, 3, 1903, with Dr. F. C. Vandervort, presiding. After the minutes of the last meeting were read and approved the president made a report for the program committee. Articles VII and VIII of the Constitution were amended so as to be in harmony with the constitution of the State Medical Society. The censors reported favorably upon Dr. L. J. Hammers, of Lexington and he was voted a member of the society.

An executive committee of four to act with the president in appointing the "Sub committees on Arrangement" for the Illinois State Medical meeting to be held in Bloomington next May was elected. This committee consists of Drs. C. M. Noble, F. J. Parkhurst, E. Mammen, J. Whitefield Smith and the president, Dr. F. C. Vandervort.

Dr. A. E. Rogers reported to the society a case of "Tetanus" following confinement. The woman was delivered on Friday by a midwife and the doctor was called in about Monday midnight. The patient had had a bad headache during the entire day. Pulse and temperature were found nearly normal. Symptomatic treatment instituted during the night. In the morning a marked trismus was present and with the advice of a consultant Tetanus Antitoxin was freely injected beneath the skin. Urine was found normal now as well as day before. The improvement following the use of the antitoxin was very marked until the next morning at 10 a. m., from which time the patient grew rapidly worse without any apparent cause and died about noon. The peculiarities of the case were the rapid onset, coma and no convulsions. In the matter of treatment the antitoxin undoubtedly caused a marked relaxation of the trismus for the first 18 hours after its use.

Four other cases were reported but these were quite typical.

Dr. R. G. Yolton reported a case of **Sudden Death of Mother** three days after confinement. Forceps were required and chloroform was administered though not to the point of surgical anesthesia, during the delivery. After the baby was born patient came readily out from under the anesthesia. Next day an irregular pulse was noticed, but patient gave no subjective symptoms of any heart trouble. Died suddenly the following day without any further warning.

The society adjourned to meet in two weeks from date to hear the report of the executive committee.

Personals.

Dr. E. L. Brown has moved from South Dakota to Bloomington and gone into practice with Dr. D. H. Nusbaum.

Dr. C. M. Coen, formerly of Bellflower has moved to Streator, Ill.

The McLean County Medical Society will celebrate its golden jubilee next April. Ever since its organization it has been an auxiliary to the State Society. There were fourteen charter members all deceased with the exception of Dr. C. R. Parke now of Louisville, Ky. Dr. Parke was in active practice in Bloomington until one year ago.

A. F. Kaeser,
Official Reporter.

The McLean County Medical Society met at the City Hall, Bloomington. Dr. Carl Black, president of the Illinois State Medical Society; Dr. Sullivan of Cairo and Dr. Harvey of Griggsville, members of the Council were present at our meeting.

No other business coming before the meeting Dr. T. W. Bath proceeded to read a paper

on **The Relation of Mosquitoes to Malaria Fever.** In the brief time allowed for a paper on this subject, it is evident to all that only a phase of the subject can be developed, while the major portion must be passed over.

In the following pages I shall say nothing of symptomatology, pathology and treatment, but prefer to give you the etiology of the disease and a brief sketch as to the methods whereby certain definite facts were established. These facts are based on the newer literature of the day resulting from prolonged observations and experiments in the realms of comparative biology, without which our glorious science of medicine would never have been advanced.

This paper is based on the newer literature, upon my correspondence with many scientific men, and upon my own feeble observations while serving as army surgeon in Cuba and the Philippine Islands.

The credit is given to Laveran, a French army surgeon, who, while on duty in Algiers in 1880, first discovered the plasmodium of malaria in the human blood. This discovery, in connection with many like discoveries which radically upset old theories, was either ridiculed or damned with faint praise. Two years later Richard discovered the plasmodium to be intracorpuscular, which Loveran had thought to be extra-corpuscular. But Loveran's discovery was not confirmed by the scientific world until Celli and Marchiafava, two Italian investigators demonstrated that the "Melanin which is characteristic of this infection was formed within the parasite." These investigators and Golgi were also the first to point out the different life cycles of the now known Testian, Quartan and Estivo-Autumnal types. The truth is that in my judgment the bulk of all the greater original investigations has been done by the Italian scientists, who singularly enough have unfortunately been deprived of the honor of making the most signal points of discoveries which have completed for us the chain of evidence in the di-morphic theory of plasmodium contagion.

In 1882, shortly after Loveran's great discovery, Pfeiffer and others of Germany entered up a series of studies in the realm of the human protozoic parasites from which, for convenience, the classification of the protozoa are divided into three divisions, with respect to their morphology. It is with reference to the second class, the order of sporozoa and its subdivisions of coccidia and haemo-spordia that Pfeiffer discovered that the coccidia (a sporulating animal cell, living and sporulating in the cell structures of man) had a double or dimorphic life. In its intra cellular human habitation, it reproduced itself a—sexually, i. e., by simple fission. In its extra corporeal life—that is, living outside the human body, it reproduced itself sexually, that is by true fertilization of a male with a female element. Studies along this line gave rise to a new pathological finding, known as coccidioses. The morbid lesions in the human being were cysts of the various viscera accompanied by purulent exudations. Presumably the coccidia completed its second cycle of life in some of the lower animal forms.

In 1887, Mechnikoff, intuitively reasoned that the plasmodium of malaria was a protozoon (the lowest class of one celled structures in the animal kingdom) related to the coccidia whose studies had just been elaborated by Pfeiffer and others, and that it was a haemosporia, that is, it reproduced itself in the blood. Here again the Italian investigation confirmed a theory and Celli with his associates laid down four laws which pertained to the existence of the haemasporidic parasite:

1. The haemosporoza lived at the expense of the red blood corpuscle.

2. It had a cellular structure, endowed with abundant chromatin.

3. It underwent two phases of life, not the dimorphic, within the blood corpuscle.

4. Inoculations produced the same disease.

Coincident with Loveran's discovery of the plasmodium, and Pfeiffer's elaboration of the dimorphic theory, other investigators were pursuing researches in the blood of frogs, turtles, reptiles, birds and warm-blooded animals. In the blood of reptilia and batrachia a parasite or "blood-worm" was found. Loveran's finding of the plasmodium in the human blood was found to have an analogous relation to the parasite in all orders of the lower creation. Except that in cold-blooded vertebrates and batrachia, no effect was observed on the hemaglobin of the blood. However in birds and warm-blooded vertebrates the destructive effect on the hemoglobin was the same as observed in the blood of man, that is the hemoglobin was abstracted and replaced by melanin, the digested residue of hemoglobin. The reproduction by subdivision in the blood was the same, each new set of spores sent out anew into the blood being endowed with a neucleus of chromatin which had been robbed from the parasite's host.

The studies on birds were particularly interesting. Here the French scientist Latbe divided the proteozoan (malarial) infection of birds into two classes the knowledge of which has been of help to find the missing link in completing the chain of evidence in human malaria. These divisions are known as the halteridium and proteosoma. Each relating to the particular form of infection and cycle of intra-corpuscular existenance of the parasite. The common crow may contain a type of malarial infection known as halteridium while the English sparrow seems to be typical of the other form of bird malaria known as proteosoma.

The halteridium is a form of blood parasite which produces flagellated forms and cresents similar to the estivo-autumnal type in man. Search for the halteridium type in animals has been fruitless, neither has the definite host been found, but the contagion is widespread particularly in crows. McCallum of Baltimore, in his studies on bird malaria has observed in this form the very interesting phenomenon of sexual fertilization of one male cell element (microgain, etc.) with that of a female cell element, (microgain, etc.) In this type there is a rapid destruction of red blood corpuscles and a deposit of melanin quite similar to the estivo-autumnal type in man.

In the type of proteosoma, in English Sparrows, there is not the rapid blood destruction as in the other type, no cresents or flagella

afloat in the plasma and in short a type of malaria quite similar to the milder types, tertian and quartan, as found in man. The definite host being the gray mosquito or culex pipiens.

I have purposely led you a short cut through the winding maze of comparative biology in order that you might the more intelligently grasp the theory of evolution of the di-morphic cycle of the malarial parasite as found in the blood of man. Had the studies of the plasmodium been confined simply to the parasite without reaching into comparative biology we would today be ignorant of the complete cyclar existence of this parasite; and would be unable to intelligently deal with it from the point of preventive medicine.

The results attained in this field have not come by fortuitous circumstances. The pioneers in this field, when they found that malaria and yellow fever were not contagious diseases, that is, that the individual of himself was not capable of transmitting the disease to another of his kind, made diligent search for that host in which they knew the extra-corporeal (that is, existing out of the human body) parasite must live and complete its evolution. All scientists recognize that nature has made due provision for the perpetuation of her species, and that if malaria in man cannot be transmitted to man without an intervening agency, the problem was to find that agency.

Ross, who between 1895 and 1897 made over 1,000 culex mosquito dissections in India, was finally led to dissect the anopheles mosquito under Manson's suggestion that "each haematozoan probably requires a particular species of mosquito." Prior to this Manson had said that the homologues of the sporulating forms of an intra-corporeal organism, or in plainer language, the flagellae were the sexual spore fertilizers in both man and mosquito. Therefore with this idea in view, Ross hatched anopheles from the larvae and caused them to bite persons suffering with the estivo-autumnal type of malaria. Day by day he made fresh dissections of the mosquitoes, when about the fourth or fifth day he discovered a pigment in a parasitic cell which was bulging from the posterior stomach wall of the mosquito. Not finding this pigment or parasitic cell in control mosquitoes he instantly realized that he had discovered the long sought evidence, viz., the sexualizing of the parasite within the stomach of the mosquito. Upon bursting about 10,000 sporites were let loose in the lacunar circulation of the mosquito, invading its salavary gland and by its bite injected into the human blood, thus they found their way into the blood corpuscle, there to begin their second cycle at the expense of the host.

This complete evidence which I have sketched concerning the origin, propagation and infection of the malarial parasite is indisputably correct and the profession as a whole must accept it. No longer will the intelligent laity accept statements from physicians that they "have a touch of malaria, or that the country is full of malaria," for such things are not true.

From the foregoing it will be understood that in order to become infected from the mosquito bite, that the mosquito must have previously bitten some person suffering with the disease. Were this not so, it would be difficult to eradicate this disease, for I here exhibit the larvae and fully grown anopheles punctipennis which I have caught quite plentifully in our neighboring creeks. All that is necessary to cause an epidemic of malarial fever is to import some one already suffering with the disease, allow him to be bitten with the anopheles variety of mosquitoes, and in turn, whomsoever those mosquitoes bite in the future after the parasite has completed its sexual development within the mosquito, that person will become infected.

There are three general types of malarial fever. The tertian, which completes its cycle every 48 hours. When the attack is daily, it is called the quotidian, which is nothing more than a double infection of the tertian. Each set of the parasites undergoing alternate sporulation. The quartan is the three day type, requiring 72 hours to complete its sporulation. These two types are the most common, and the tertian being of the two by far the more common. In fact quartan malaria is fairly rare. The estivo-autumnal or summer-autumn type, known as the remittent fever, differs from the preceding types in that there is no period of remission but from the onset the temperature is high, with some variations for a period of ten days to two weeks when there is a gradual decline. This type should in my judgment be called by either one of two names, and thereby prevent much needless confusion. Either call it aestivo-autumnal or continued fever, and do away with misleading designation. The Aestivo-autumnal type is likewise subdivided into the quotidian and tertian forms. The Italian investigators have been the first to make this claim which has been substantiated in this country by my colleague, Surgeon Chas. F. Craig, pathologist to the Army Hospital at Presidio, California. In 5815 blood examinations made from June 30, 1900, to June 30, 1901, on soldiers returning from the Philippine Islands, 643 showed the malarial parasite. It must be bourne in mind that from the home start at Manila to San Francisco, is an average of 30 days voyage, any symptoms of malaria manifesting themselves would be promptly treated by the ship surgeon, hence this accounts for not finding a greater per cent of infection. Of the 643 cases, the classification is as follows: tertian, 220; quartan, 3; estivo-autumnal, 423, divided as follows: tertian estivo-autumnal, 327; quotidian estivo-autumnal, 64. The remaining 52 were combined infections, the quotidian estivo-autumnal, according to Dr. Craig, is the kind which produces the pernicious fatal forms of the disease. Every corpuscle contains a parasite, some kinds two.

Malaria is today, even with cheapened quinine, the second most fatal disease on earth. In a medical meeting of southern men, one physician quoting Osler who said "Tuberculosis was the captain of the men of death." One other physician present paraphrased it by saying then "Malaria was its first lieutenant." Today malaria destroys 15,000 lives each year in Italy alone. Fifty to sixty per cent of the deaths in Greece are due to malaria. It is the scourge of our own fair south. A recent publication declaring 15,000 people die each year of the dis-

ease in the southern states. The American army while on duty in the southern camps and in Cuba and the Philippine Islands became infected almost to a man. In my own command of nearly 300 men in northern Luzon, not a man escaped. The history of white settlements on the Isthmus of Panama is a history of death caused by contaminated mosquitoes. The Panama railroad built in the forties, a line of nearly 50 miles, cost a life for each tie laid. A few years ago after Stanley had completed his explorations of the interior of Africa, a short line of railroad was built from the coast to Leopoldville just in the interior. It was thought that Chinese would be the best help to employ. Consequently a large number were brought in and all died to a man—mostly of malaria.

The sad difference between malaria and yellow fever is that there is an attack of yellow fever produces immunity while one infection of malarial fever predisposes to another attack. Stanley observed that the blacks of his caravan seemed to suffer no immunity from attacks in especial malarial districts. The English surgeon of Stanley's expedition stated that each white man on the exploration, during three years in the African wilderness and a travel of 5,000 miles, averaged 150 distinct attacks.

At the beginning of the war with Spain, our government, realizing that eventually troops would be quartered in the tropics sent Col. O'Reilly, now surgeon general of the army, to Jamaica, to get an intelligent idea of health conditions there with reference to the British troops. Jamaica had bourne the omnious sobriquet the "Graveyard of the English." The first troops arrived there in July, 1779, 1,008 strong, and were quartered at Kingston. In four years the whole command was dead. The following year 387 men were landed, 155 died in a year and 200 of the remainder perished in an expedition. A few months later 791 landed. In two years they lost 500 men while stationed in the most healthy locality. And so on the history of the British occupation of Jamaica reads like a horrid dream that freezes the blood. 'Tis true yellow fever and dysentery might have aided largely, but it is safe to say that malaria by reason of the constitutional debilitation largely prepared that host for the regions of death.

As a prevention we may summarize briefly:

1st. Drainage of all accessible pools.

2d. Free use of coal oil twice per month on all surface water.

3d. Protection of the person by masks or gloves from the bite.

4th. Thoroughly screening the houses and occasionally fumigating if necessary to destroy those uncaught.

5th. Through isolation of the infected patient by screens to prevent any of the anopheles which may be present from ingesting the patients blood and thereby becoming the carriers of the disease to others.

6th. Keeping up a prophylaxis by either quinine or arsenic.

7th. Careful occasional hunts for the anopheles, and their destruction.

The Military Tract Medical Association held its sixty-fourth and annual meeting in Peoria, October 15th and 16th. It was one of the most interesting and profitable meetings of the society for years.

The attendance was good and interest was general during the entire two days session. We were the guests of the Peoria Medical Society during our brief sojourn in their city and the social functions were well planned and thoroughly executed for the comfort and entertainment of the members and their ladies who were in attendance and there were a goodly number of "the ladies" present. The scientific program was completed and liberal discussion of most of the papers read occurred. A pleasing feature of the second days session was a visit to the association meeting of the highly regarded, indefatiguable president of the State Medical Society, Dr. Carl E. Black, of Jacksonville, who on invitation of the presiding officer, Dr. Coleman, gave a very interesting address on general topics of interest to physicians and particularly on **organization,** on which special topic we have all come to know him as **authority.** Our society is in good financial and working order. Galesburg was selected as place of meeting in October, 1904.

The following officers were elected for the ensuing year: President, H. C. Hopper, Galesburg; 1st Vice President, W. S. Holliday, Monmouth; 2d Vice President, J. A. Kirkland, Cambridge; Secretary-Treasurer, C. B. Horrell, Galesburg.

A unanimous vote of thanks to the Peoria Medical Society for their arrangements for our comfort occurred and adjournment.

The scientific program follows:

1. J. E. Coleman, Canton—President's address.

2. F. B. Dorsey, Keokuk—Appendicitis—When shall we operate?

3. J. P. Roark, Bushnell—The Antiseptic idea and its influence on the practice of medicine.

4. S. C. Stremmel, Macomb—Hospitals in the smaller cities.

5. H. H. Fletcher, North Henderson—Chylous ascites.

6. L. R. Ryan, Galesburg—Rhinitis Atrophic Anteriosa.

7. Frank P. Norbury, Jacksonville—The treatment of Neurasthenia.

8. E. C. Franing, Galesburg—The only original Galesburg male quartette—obstetrical.

9. O. B. Will, Peoria—The significance of uterine misplacements.

10. Otis Johnson, Quincy—Surgical subject, selected.

11. Miss Kittie Barrere, Canton—The value of an intelligent assistant in the doctor's practice.

12. Sumner M. Miller, Peoria—Liver Abscess, following Typhoid Fever. Report of a case.

C. B. Horrell,
Official Reporter.

Christian County Medical Society.

Report of committee relative to the collection of accounts.

As chairman of this committee I have found it quite a difficult task to frame a report that in any way comes up to my idea as to what I con-

ceived was expected by the resolution at our meeting last July.

This difficulty has been due to at least two causes, viz.: the lack of ability on the lines that should govern in such work and to the apathy of the medical profession in this County. For instance: Soon after being appointed to draft these resolutions, in company with the other members, I, in order to get the support and assistance of my local medical brethren, sent a letter directed to each of the members in good standing in my city and asked their assistance in drawing up these very resolutions, i. e., I wished to get their ideas and opinions as what they considered needed to set us right in our work.

I asked several of the profession why they did not give me assistance or at least reply to my letter and was told, what? Generally given a few words of commonplace remarks and the subject turned to other more congenial fields of conversation. I asked particularly one of the young members of the profession why he did not take an interest in the matter and he said he thought the older physicians should do the work, as he did not feel like setting himself up for a mark in the community. I told him that the older men would never do the work for the young men, as the ways of the old men were set and that they would not do that for the young men which they ought to do for themselves. He then asked me what the other young men said and were doing in the matter and I told him that they all wished as he did, to shirk their duty and put the burden on other shoulders. I told him that the other young men were like him, as he had told me he was in favor of raising the standard of the medical profession in the community, but every one wanted somebody else to do it. I quoted Ella Wheeler Wilcox's saying to him about the "Lifters and Leaners,"

"Wherever you go you will find the world's
masses
Are always divided in just two classes.
And, oddly enough, you will find, I wean,
There is only **one lifter** to **twenty** who **lean.**"

After I received no help from my own townsmen, I sent a letter to each member of the committee for ideas and suggestions in framing this report and received three replies to the same. These replies have been very helpful to me and I now extend my thanks to those who have helped me.

Mr. President, notwithstanding the fact that I was aware of an apathy existing in the ranks of the medical profession, I must admit that I am amazed at the lack of interest in the medical profession pertaining to the financial welfare of itself. It must be largely owing to the false idea in our ranks that we are **not wage earners,** but somehow or other that if we set a price on our professional labor, it becomes, not a fee or a wage but that it is an **"Honorarium,"** coming to us like the Chinese system, in the form of beggary, i. e., we must wait for the patient to set **his** price and estimation on our services. It puts me in mind of the story related to a medical man when he was seeking the reason why the medical men in England were so infrequently given titles, as compared to their worth and station along side the legal profession. He was told that the social standing of the medical profession was about nil, because a **lord** has boasted of the fact that the medical man could always be hired for a guinea to examine his rectum.

The question before us is so important that the wonder is how the medical profession has succeeded in a financial way as well as it has; and, now, that we have been awakened, somewhat, to the requirements of modern methods of business, the pertinent, question must be asked why shall we hesitate a moment to do as we should, and as every other profession, calling and trade has done, to organize and combine our energies and stand together as one man. Let our motto be that of the Three Musketeers, **"One for all, and all for one."** Shall it be said of the medical profession, unlike all other callings, it is so fearful and distrustful of its own members; that it is so devoid of ordinary good business judgment and fair dealing; that it is so dishonest with itself; that its own members are so full of bitterness and back-bitings toward one another that it will not enter into and keep an agreement pertaining to its own welfare?

I move that the following be adopted:

First. We, the members of the Christian County Medical Society, do hereby mutually promise and agree among ourselves and to each other, to be governed in our practice by the following rules and adopt as our prices the fees of the Pana and Assumption Fee Bill.

Second. That we will not bid for pauper practice.

Third. That we will not attend the paupers, nor do the eleemosynary or public practice at a less rate than the regularly established and recognized Fee Bill of Christian County.

Fourth. That in the distribution of the pauper practice of the County, no one particular physician shall be favored in such practice by the public authorities, but the patient shall have the privilege of choosing his own physician.

Fifth. That we discountenance the practice of making frequent and unnecessary visits to the sick, under the guise of "mere friendly calls" without price; that we will not render free service to others than members of the medical profession and their dependents; that "charity work" shall be considered as pertaining only to emergency calls to the worthy, indigent poor not having time to make the proper financial arrangements.

Signed, J. J. Connor, M. A. Reasoner,
M. W. Staples, F. S. North,
R. W. Johnson, C. W. Coe.

It was moved by Dr. Johnson and seconded by Dr. Conner that the resolutions offered by the chairman of the committee be received for further discussion at the next meeting of the Society, on January 15, 1904; that the same be printed and distributed to each member of the Society, that they become familiar with their import before the next regular meeting in January, and that any member who may think he has something better to offer on the subject be asked to send the same in writing to the secretary that it may be discussed along with the above resolutions relative to adoption Motion carried.

The Illinois Medical Journal.

Special Section Containing Official Reports of the Chicago (Cook County) Medical Society and its Branches.

OFFICERS:

R. B. PREBLE, 103 State Street..... ..... President
FRANK X. WALLS, 4307 Ellis Avenue.....Secretary
A. E. HALSTEAD, 2937 Indiana Avenue..... .....Treasurer
W. A. EVANS, 103 State Street. ..... Chairman Medicolegal Committee
WM. HARSHA, 103 State Street .....Chairman Membership Committee

NOVEMBER, 1903.

The Chicago Medical Society held a clinical meeting in the Schiller Hall, 103 Randolph st., Wednesday evening, Oct. 7, 1903, at 8 o'clock.

The following cases were presented:

Congenital Dislocation of Hip.

Rosa Englemann: This boy is two and a half years old. I first saw him about six months ago. He was born in Russia, the fifth birth, preceded by two abortions at the fifth and fourth month. The mother while carrying the child had uterine hemorrhages from the fourth to the sixth month after which they ceased. Labor at term was rapid and without complication. The mother says he walked at the eleventh month and she noticed no lameness at that time. It is very probable that his lameness did not appear then, that the head of the bone did not leave the acetabulum until pressure was made upon the limb. About the first year he was put to bed for some months because of the deformity and lameness but there was no fever nor pain nor swelling around the joint pointing to a coxitis. There was an abscess in the groin of the lame side at this time that left a linear scar.

I saw the child at the second year. He was well nourished and healthy except for a rachitic head and some rachitis of the lower extremities, some bowing on the left side. I think you can see the deformity here over the upper posterior gluteal region. There is absolutely no pain or swelling, we can manipulate the joint and get quite an excursion, perhaps two inches. There is no restriction of movement in any direction such as there might be were it a coxitis with possible adhesions, or a trauma. Trauma of course is rare in the hip and especially rare in children. The mother is very anxious to have reduction done. Of course there is shortening of the limb but it can be pulled fairly into place. The position of the limb with eversion and abduction is opposed to anything like traumatic dislocation in which there would be inversion and adduction, and points almost conclusively to congenital dislocation.

Later Observation Leads to a Change in Diagnosis.

I must correct my diagnosis of congenital dislocation to one of pathologic dislocation since seeing the case with Dr. Mueller. He pointed out the absence of the neck and head of the femur due probably to an antecedent osteomyelitis with such rapid destruction of tissue and repair as occurs in children that no inflammatory adhesions took place. This fact and the position of abduction and eversion in a posterior, superior dislocation (typical of congenital dislocation) where we would naturally expect adduction and inversion, misled me.

A. H. Ferguson: This is a most typical case of congenital dislocation. There is a shallow acetabulum with a fairly good head. Those conditions are more favorable to the open operation than to replacement according to the so-called bloodless method. I will take the opportunity in a few meetings from now to exhibit a case that I operated upon by the open method three years ago, without opening the capsule of the joint. I will briefly state what I did in that case. I made a long incision over the external aspect of the hip joint, exposing the gluteal muscles. I separated the muscles without cutting the fibres and exposed the capsule as well as the great wing of the os innominatum. Having done that I made a horse shoe incision going through both tables of bone, with a cartilage knife, then bent down a flap of the two tables over the head of the bone, packed it with gauze behind and sutured this flap to the capsule so that the head of the bone could never again come up to the great wing. That child has made a beautiful recovery. Without the danger of opening the joint we made a bony acetabulum. I think this method is worthy of mention and practice.

2. Presentation of a case of Adiposis Dolor-(Dercum's Disease). Frank Billings.

Adiposis Dolorosa (Dercum's Disease).

Frank Billings: Before I exhibit the patient I wish to say a word about this condition. The disease called adiposis dolorosa or Dercum's disease, was first adequately described by Dr. Dercum of Philadelphia. It has not been reported many times, Dercum, who wrote the last report I have been able to find, in March, 1902, could find but 24 reported cases, including his own. Of these 24 recorded cases four were males and 20 females; one male reported by Evalle, a second case by Viteau of Lyons, France, a third by Pare and the fourth by Dercum. There

are probably other cases in males reported since then, and of course a good many of both male and female not reported. In conversation with members of this Society I find several men here have seen cases but have not reported them.

Adiposis dolorosa as it exists is in a sense an accumulation of fat about the body, and some of the reporters divide the cases into two kinds: first, those in which there is a fatty deposit which is localized and nodular, appearing chiefly upon the trunk and limbs, never upon the distal extremities. We never find an accumulation of any kind of fat, either the nodular or diffuse variety, upon the distal extremities, so the feet and hands do not show this accumulation of fat, indeed it was mentioned by most the reporters that the hands and feet are in a sense attenuated so that the tendons of the phalanges are more prominent than in ordinary individuals. In the nodular form the tumors vary in size from that of a pea, felt under the skin to large tumors, such as the ordinary lipoma. They are further characterized by the fact that a few of them may apparently coalesce and form larger tumors. They also have the peculiarity of migrating, the same as ordinary lipoma do, about the trunk.

The second general division is the so-called localized diffuse form. This is not tumor like but there appears about the upper arms or about the thighs or about the body an immense growth of fat.

Finally, a third, general diffused form in which the trunk of the body is greatly thickened by fat, and the lower portion of the abdomen will have such an amount of fat that the skin will hang down like an apron in front. One of the cases reported by Dercum, the only male, shows this in his picture, an immense fold of fat hanging half way down the thighs like an apron, and also over the posterior portion of the body.

This disease is characterized according to all writers not only by an accumulation of fat, but by pain. The pain exists in all the forms; it is found in the nodular form, in the tumorous form, and especially about the body. Not only is there spontaneous pain, neuralgic in character, but there is a soreness of which patients complain when the skin over the diffuse fat or over the nodules is touched.

These patients are usually nervous; they are asthenic, they show weakness that is not altogether due to the fat. They will tire easily and show fatigue on slight exertion. The last named symptom is so prominent a feature that it is really characteristic of the disease. Associated with the asthenia are nervous and psychic phenomena usually of a morbid nature as illustrated by this patient. He was despondent, as many of them are, and he was imaginative, the suggestion of pain today would make the pain tomorrow, and this is true of many of these cases. The same susceptibility to suggestion exists concerning medicine. If he were given a simple remedy and told that it would have a certain effect it would have that effect. A few of these patients will not only show the morbidness of the ordinary neurasthenic, but epilepsy has occurred in several of the reported cases, notably in the last one reported by Dercum.

Sometimes these patients, especially the women, are hysterical.

The disease occurs among people in middle life. Most of the cases reported have been over forty years of age, one was thirty-five. It usually appears somewhere between thirty-five and fifty-five years of age.

The pathology of the disease is practically unknown. There have been certain things found that are suggestive but it can be best considered just now as a clinical entity without a known pathology. Among the things found at autopsy is an interstitial neuritis in the tumors, which has also been found in tumors removed intravitam. The nerves apparently increase in number in the tumor mass and there is an interstitial form of neuritis. In this case, in the tumors removed since he has been under my care, there is a dense fibrous network but apparently no increase by the Weigert and other stains, of the nerve tissue of the part, and apparently no neuritis to be found. This is the case in a good many slides examined from several tumors removed. I have heard that tumors removed from this patient in another hospital showed the same condition, no neuritis but an increase to a rather large amount of the fibrous framework holding the fat. Otherwise the tumors looked like ordinary fat tumors.

There have been changes found, rather commonly, in the thyroid gland. Changes pathological in character: cystic thyroid gland; degenerative changes in one lobe of the gland; partial atrophy of the gland. These changes have been found in some cases but not in all so that this cannot be considered a part of the pathology of the disease. In one of the cases, reported by Burr of Philadelphia, some sclerosis or degeneration was found in the columns of Goll and especially in the thoracic region of the cord.

The patients usually live on and those that have been observed and watched long enough grow weaker and the psychic phenomena more developed. Some of them have epilepsy and go into an imbecile stage, others become mentally disturbed, and they often die of some intercurrent affection. In one of Dercum's reported cases it was nephritis, in others it is weakness of the heart, and so on, that causes death.

Narration of Case: This man came from Beloit, Wis., that I might show him to you tonight. You will see scattered all over the body these nodular masses. Everywhere about the trunk and running down upon the extremities you can feel these tumors. These scars are where tumors have been removed. He does not present quite the characteristics he did when I first saw him, or when Dr. Preble saw him. You will notice that his chest is large and heavy and he presents a curvature of the spine, a stoop shouldered condition, which has been associated a good deal, probably, with the asthenia that has been with him so long.

The history is briefly as follows: He is 45 years of age. Presented himself to my clinic on the West Side in May of this year and I induced him to remain in the Presbyterian Hospital for a time. He was there from May 3d to June 1st, so I was able to make a good many clinical

observations. He says his father died of old age, the mother died at 76 years of age of what was called heart failure. He had no brothers or sisters, no family history of any chronic disease; no relative that suffered from a similar complaint or was very fat. He suffered from the ordinary diseases of childhood, gives a history of a purulent discharge from both ears for many years when he was young. Nineteen years ago he had an attack of intermittent billious fever extending over a period of months, six weeks of which time he was confined to bed delirious. Almost all his life he has been troubled with attacks of vertigo which have come on from time to time, more frequently in warm than in cold weather, and more often when he was younger. The attacks came on suddenly and lasted from three hours to two or three days at a time during which the patient could not walk about, or could only walk with difficulty. He would fall during an attack but never lost consciousness. On inquiring into this symptom I satisfied myself that it was not an epileptoid seizure from which he suffered at such times. Bending forward often caused this vertigo.

Fifteen years ago the patient was in a railway accident, he was an engineer, and sustained a fracture of the sternum and three ribs and received a severe blow over the spine from the 8th to the 10th thoracic vertebra, as he described it. The patient has always been stout, until fifteen years ago he possessed unusual strength. He worked as an engineer and general mechanic until seven years ago, and says his work has been hard. For the past seven years he has been able to do but little work of any kind because of the asthenia. He has never used alcohol or tobacco and denies venereal infection.

The present trouble began, the patient says, twenty years ago, when he noticed a number of small nodules subcutaneously in the right forearm. They varied in size from an inch in diameter, were firm, easily palpable and not painful. They gradually increased in number, principally on the arms and lower extremities but not on the trunk, until six years ago. The individual tumors did not increase in size after they first appeared. Six years ago tumors appeared on the trunk, most numerous in the lumbar region. From the first they have been painful, the patient referring to the pain as shooting and neuralgic in character. On two or three occasions he has submitted to surgical operations for the removal of tumors and this has given temporary relief but new growths have invariably appeared in a short time in the vicinity of those removed.

In addition to the presence of the tumors and the pain the patient complains of great weakness, particularly in the lower extremities, much more pronounced in the last year and a half. He has gained 77 pounds in weight in the last six years. This gain has been gradual, but more marked in recent times. During the past six months he has had some blurring of vision with occasional diplopia for short intervals. There has been loss of sexual power for two years.

When the patient presented himself measurements were: height, 5 feet 10½ inches; right upper arm, 15¼; right forearm, 12¾; left upper arm, 14½; left forearm, 13; right thigh, 28 above, middle 25, lower portion 19¾, at the calf 18½; left thigh, upper portion 27¼, middle 24½, lower, 19¼, calf 18.

Negative signs were found about the head except the eye examination. The extrinsic ocular muscles were normal in movement. Chest and lungs negative. Heart, lower border, as far as could be mapped out, at the third rib; the left border extended two inches to the left of the left nipple; the apex could not be located. Abdomen prominent, somewhat pendulous, presenting rather large folds falling down over the abdomen. The walls of the abdomen are thick but differ in different portions because of the tumors which could hardly be discerned some of them lying very deep in the superficial fat. Reflexes in the extremities present, the knee jerks differing a little, one being stronger than the other and differing from day to day as he was in the hospital, sometimes almost absent, sometimes exaggerated. There was ataxia of station the patient falling backwards when the eyes were closed. Cutaneous sensation over the entire body was normal. Patient complained of all sorts of paresthesias. He could distinguish touch with the head of a pin, and tell the point from the head; he could tell a camels hair brush as it touched him, and distinguished between heat and cold. The pain sense was not increased under hyperesthesia apparently, although when he was excited he was full of ideas of illness, and imaginative. Scattered over various parts of the body, particularly the arms and forearms, the chest and lower extremities, are numerous subcutaneous nodules varying in size from that of an almond to three inches in diameter, firm to the touch, movable to the skin of the extremities, not painful to pressure. Those on the trunk are sensitive to pressure. The patient says that the tumors about the trunk sometimes give spontaneous pain while those on the extremities never cause pain. The eyes were examined by Dr. Hotz. Right vision was 20-50, corrected vision brought to 20-30. In the left eye vision was 20-50, no improvement. The upper part of the disk of the left eye was slightly grey. Fundus of the right eye normal. The arteries appeared somewhat thin. While looking at the test types vision became occluded every few seconds owing to the rapid exhaustion of the nerve function. Examination did not reveal any diplopia due to affection of the ocular muscles. The patient's temperature was slightly elevated the first few days in the hospital, 99.6 was the highest. The pulse was rather rapid varying 90 to 112. Respirations practically normal. The urine, examined several times while he was in the hospital, was practically normal, a 24 hour specimen showed 1060 c.c., specific gravity 1027, no albumin, urea 20 per cent, 66 grams of total solids, no casts found in fresh specimen. Blood examination, 4,072,000 reds and 82 per cent of hemoglobin, practically normal blood, with slight anemia.

The tumors removed from the patient's back on the left side and examined by the pathologist of the hospital showed an ordinary fat tumor with rather an abundance of fibrous stroma without recognition of an increase of the nerve fibres within and no neuritis. The patient therefore presents all the phenomena going to

make up the disease of so called adiposis dolorosa, that is , fatty deposit in the nodular form, increase of that more rapidly in the later years, associated with pain and tenderness, especially over the body, showing the characteristics that mark asthenia and associated with the nervous and psychic phenomena I have mentioned. His thyroid gland could not be discovered on palpation.

Because of his apparent apathy and asthenia, the increase in gross weight, the presence of so many of the phenomena of myxedema, yet without the idea of its being myxedema, and knowing that thyroid gland had been used in this disease, I placed him upon Merck's thyroiodine. I have used it for several years in place of the extract of thyroid gland, with the idea that one got rid of the possible ptomaines or poisonous materials found in the extract. Although I must say that the thyroiodine will produce practically the same phenomena, dizziness, rapid pulse and many of the symptoms that have been ascribed to extraneous substances in the thyroid extract. But it is a clean drug to use. I put him on one grain doses three times a day at first, and I said to him that possibly he might become a little dizzy, as he did, but since he was open to suggestion that might have been the cause. One grain of thyroiodine is equal to five grains of the extract of thyroid gland. He was kept on this, the dose being gradually increased, while he was in the hospital, with the result that he was better mentally, did not complain so much of the asthenia, but he was morbid and imaginative and had pains and tenderness, especially in his back at a point where he was injured many years ago; he has always complained of that, he says now it is the only place he has pain. He then left the hospital and went home. I wrote to his physician and the thyroiodine has been increased until he now takes eight grains, two grains at a time four times a day. He weighed 276 pounds when he entered the hospital and has lost forty pounds since. From a melancholic he has come to be a man who is now hopeful. He was doing nothing at all and now he has a useful occupation, is happy and grateful.

M. L. Harris: I rise to mention a similar case I had a short time ago at my clinic at the Policlinic. The patient was a woman past 40, from the lower walks of life and addicted somewhat to the alcohol habit, which she says, however, was induced by the pain. She had multiple painful fatty tumors in both upper extremities. They were limited to the upper extremities, there were no painful tumors on the trunk. The tumors extended from the shoulder to the forearm and were so painful to the touch that at night she was obliged to lie with her arms outside the cover because the weight of the bed covering was so painful it kept her awake all night. In rubbing the hand over her arm whenever one of the nodules touched she said it felt like a sharp electric shock and was painful. They seemed to be more painful to a light touch than to pressure; if they were pinched they were not so painful as when lightly touched. I removed thirty of these tumors from her arms; all that were painful. They varied in size from a large pea to perhaps 2½ centimeters in diameter. A number of the tumors were submitted to the microscope but we were unable to discover anything special regarding the pathology. They were all in the subcutaneous tissue, all sharply defined from the surrounding fat, all enucleated very easily. After the removal of the tumors she was relieved of her trouble. I saw her a year afterwards and she had no recurrence of the tumors and was free from pain.

L. C. Pardee: I had a short experience with this same case in Wesley Hospital, and with the idea of eliminating pain in the nodules I tried the application of the high frequency current to them daily. At that time he was having muscular contractions and usually he could not get out of bed unassisted but at the end of the week he could walk down town very comfortably and at the time he left the hospital he seemed in good shape as far as the pains were concerned; the nodules of course remained unchanged.

Dr. Billings: I should like to hear a word on this case from the president.

R. B. Preble: I have nothing material to add. I saw the patient for a short time in Wesley Hospital this past spring, previous to Dr. Billings seeing him. At that time the patient was practically as reported except that the disturbance in the lower extremities was much more marked than later on. He was apparently suffering from hemiplegia and the question that came up at the time was had we the right to assume that one of these tumors had developed in the spinal canal, and if so whether it was sufficiently defined and localized to warrant an attempt to remove it by operation. Neither could be answered affirmatively; we could not say there was a tumor in the spinal canal, nor where located.

It might be interesting to note that we tried, not thyroidine, but thyroid extract and it had no effect except for a few days. It made no difference what we tried for a few days there would be improvement and then things would go back again.

Frank Billings: It is somewhat interesting when one thinks of the possible pathology of these cases; when one thinks of all the clinical phenomena, especially the psychic state, the despondency, the apathy of the patient, the morbidness and imaginativeness, and the absolute feeling of the man that he could not work and would not work, that he had no hope of anything, associated with the increase of fat diffuse and nodular; that under the thyroid treatment there has not only been a diminution in the tumor masses but also a diminution in the general subcutaneous fat, and associated with that improvement, an entire change in the disposition of the man. He is now traveling around attending fairs renting stands and offering wares for sale. When Dr. Preble saw him the man could not have been induced to get up and shout or do anything else.

There was one thing omitted in my report; there are trophic changes in this case, hemorrhages under the skin, but without deterioration of the blood. Just as the trophic changes occur in myxedematous disease. There is no thyroid

change found on post-mortem in some of the cases. We cannot look upon this as a disease, it is a clinical entity.

3. (a) Report of a case of Encephalitis, with exhibition of specimen; (b) report of a case: Hemiplegia of the aged, with demonstration of the case. Charles Louis Mix.

Encephalitis.

C. L. Mix: Encephalitis is a disease about which there is a good deal of discussion and about which not a great deal is known. The term encephalitis has been used as long as neurology has existed as a science, but only lately are the limitations of the term beginning to be apparent, and at present a distinction made between a suppurative and a non-suppurative form. The evolution of the disease has been gradual. One of the first authentic subdivisions was worked out by Wernicke in 1881, when he reported polioencephalitis superior acuta, which involves the motor nuclei concerned in the innervation of the ocular muscles. In 1890 Struempell added a little more to our knowledge by reporting a series of cases for which there did not seem to be a good pathological foundation, a group analagous to poliomyelitis in the cord, or infantile spinal paralysis. His paper was challenged and not accepted for many years, but now neurologists, particularly Oppenheim, are beginning to agree with Struempell and to admit that there is no longer reason for doubting his statements.

By encephalitis is meant a focus of disease, usually occurring somewhere in the brain, being almost invariably limited to the grey matter. It is not a suppuration, and not a softening, as in encephalomalacia, but is practically an inflammation, sharply localized. The pathological findings are hyperemia, with a certain amount of serous exudation, sometimes hemorrhage from the blood vessels with a certain amount of diapedesis of the red and white corpuscles and a small amount of round cell infiltration. No pus is found in the focus.

The case from which this brain was obtained, entered Mercy Hospital one year ago under the service of Dr. Davis who kindly allows the use of the case. He was brought in at 8 o'clock at night, having been taken ill in the morning. By occupation he was a switchman. He went to work in the morning in good health; by ten o'clock he felt a sense of dizziness and discomfort of some sort and lay down in a box car where he was found unconscious at 2 o'clock in the afternoon. I saw him the next morning after he was brought to the hospital. The policemen who brought him were of the opinion that he had been sandbagged. Examination failed to reveal any signs of cerebral injury, and lumbar puncture was negative. He was in a state of coma. Nothing was to be found by physical examination, and there was nothing in the urine which would account for his coma. The possibility of the coma of pneumonia was thought of, but there were no signs of disease in the lungs. Nothing was noted in the man's facial appearance the first evening. The next morning when I saw him there was a slight amount of unilateral facial paresis. There was also a peculiar effect manifest in both external recti, the eyes being jerked to one side and slowly returning to the midline, seeming to indicate a certain amount of irritation in the nucleus of the sixth nerve. Signs of focal trouble in the nuclei of both the sixth and seventh nerves led to a diagnosis of some focal disturbance in the pons, and since he had a marked leucocytosis together with a history of discharge from the ear on the side in which the lesion was supposed to be present a diagnosis of cerebellar abscess was deemed tenable, the idea being that pressure by the abscess upon the surface of the pons might give rise to nuclear symptoms.

He was operated upon by Dr. Murphy but nothing was found by needling, and in a few hours the man died. His temperature upon entrance was only 100°; it went up gradually to 102° and 103°, at which point it remained during the greater part of the last day. The pulse ran from 88 to 94. In the last few hours of his life as the morbid process evidently swept down through the motor nuclei of the medulla, the respiratory centers and the center for the cardiac inhibitory mechanism became involved, the pulse going from 90 to 160, and the temperature from 102.5° to 106.6° inside of four hours, and before death reaching 108.8° in the axilla.

The specimen shows an exceedingly beautiful focus situated exactly in the pons. The section is made through the mesial portion of the brain and here is the focus, which fulfills the description of Oppenheim and of those who have made postmortem examinations in encephilitis. It is not merely a case of encephalomalacia: there is no thrombus to account for it, and when we look at it microscopically we do not find secondary softening in this area. The tissue is all there unsoftened, and it is infiltrated with round cells. Moreover you can see in the microscopic preparations blood-vessels with the walls penetrated by red and white cells, and you can trace into the surrounding tissues the migration of these cells.

The other case I want to show you is **hemiplegia of the aged,** as it is called, and belongs to a type recently reported. In 1901 Marie published an article in the Revue de Medecine in which he makes the statement that in the majority of all cases of hemiplegia after 60 years, hemorrhage, embolus and thrombosis are not the causes of paralysis, but the cause is rather to be found in a lacunary process. In other words, he is of the opinion that there is arteriosclerosis of the smaller blood vessels, particularly of those in the central ganglia, the lenticular nucleus or optic thalamus, associated with a certain amount of absorption and serous exudation in the perivascular spaces. Marie has a service at Bicetre which is devoted entirely to old men, and his opportunities for studying the hemiplegia of the aged are therefore particularly good. Ordinarily the patients are seized suddenly, as in all cases of hemiplegia, but do not lose consciousness. They may be standing and fall suddenly to the floor: they get up and walk, but not quite so well as before. For a day or so they are quite paretic on one side of the body, or they may be exceedingly clumsy rather than paretic. There is also a certain amount of speech disturbance, consisting of inability to articulate distinctly. Recovery is rapid, the bulk of the cases

recovering completely inside of three months. The most characteristic feature of the case is the gait, called **marche a petits pas.** They take little steps not more than four to six inches in length.

This case came to Mercy Hospital in Dr. Edwards' service, and is interesting because it is of that type. This man is 63 years of age. While putting on his shoes one morning he suddenly fell forward. He did not lose consciousness. He came into the hospital the next day and walked in this peculiar way.

There is another symptom of some value in the detection of slight hemiplegia, reported by Arthur Schuler in the Jan. number of the Neurologische Centralblatt. If a man is paralyzed on the right side of the body, when he walks sidewise toward the right, he does so without particular difficulty, but when he walks to the left, the paralyzed leg drags. The explanation is simple; in a case of hemiplegia there is muscular and tendinous relaxation, so that the paralyzed leg is longer than the non-paralyzed leg. When he walks toward the paralyzed side he lifts the leg from the floor but when he walks away from the paralyzed side, the leg drags.

Sanger Brown: I have been very much interested in the presentation of these cases by Dr. Mix. I am a little skeptical however in regard to accepting the pathology of Marie regarding hemiplegia of the aged. I do not see that it is much of an improvement over our former notions. I have been accustomed to think that such light strokes, which entirely recover were due to small hemorrhages. But whether the first strokes, from which recovery occurs are slight hemorrhages or not there is no possible way of determining, but we can determine in a great many of these cases that the final stroke is one of hemorrhage; the autopsy proves that.

In regard to the other case I certainly think the doctor is to be complimented upon the very handsome specimen he has shown us and the excellent clinical history that went with it. I have always been inclined to accept the hypothesis of Struempell in regard to these cases. I do not see why an inflammatory process should be limited to the anterior horns of the cord, indeed why the same process may not occur equally well in the body of the peripheral neurone in the medulla, inasmuch as in the evolution of the neurone theory we regard the nuclei in the medulla as a differentiated anterior horn, so to speak, and an acute process might as reasonably attack them as those lower down in the cord. At any rate I think a progressive muscular atrophy, so called, that is progressive degeneration of the lower neurones whose bodies are in the anterior horns of the spinal cord is the same disease, characterized in the same way, running essentially the same course, whether it began in the nuclei in the medulla or lower down in the cord. The only difference being that it runs a shorter course when it begins in the upper portion or in the medulla simply because it involves structures which are essential to carrying on life.

Julius Grinker: This case of hemiplegia reminds me strongly of a case of so-called senile paraplegia I have under observation, where the patient 64 years old developed gradually a paraplegic, spastic gait with small steps. In my case the spastic condition of the lower extremities came on without any apparent cause, not suddenly but gradually and the patient sought relief for his slow walk. He is disabled from work by the fact that he cannot walk, that is his principal complaint. Upon conversation with him I find dysarthria and his mental powers are defective in that he cannot do the simplest sum in arithmetic, forgets the day of the week and year and even his birthday; otherwise he is rational; there are no other symptoms of dementia. I am inclined to call this senile paraplegia. It corresponds to the description given by Oppenheim and others, yet after hearing Dr. Mix's paper and seeing his patient I think it possible this might be a case of double senile hemiplegia and the dysarthria might have been produced in the same way as the dysarthria of so-called pseudo-bulbar paralysis. When a hemiplegia occurs on one side there is but little disturbance of function due to involvement of cortical equivalents of the medulla, knowing that the medulla is represented on both sides of the cortex and that there is a close association between the two sides, but when there is a double sided hemiplegia we do get the symptom complex called pseudo-bulbar palsy because the upper representation of the medulla has been destroyed on both sides. I think if it is possible to have a simple senile hemiplegia it is also possible to have a double senile hemiplegia in which the symptom complex of senile paraplegia is produced, and it is a question with me now whether the case under my observation comes under the head of senile paraplegia or whether it might not be called a double senile hemiplegia.

C. L. Mix: Marie in his account published in 1901 gives a number of cases where there were bilateral lesions and defects of mentality due to arteriosclerosis, and where pseudo-bulbar symptoms were present. In other words the whole group of cases of senile spastic paraplegia, and of double hemiplegia of the old, is the same thing. It is really a specialized variety of arteriosclerosis, which first affects the small arteries, next produces dilatations of the perivascular space, and lastly by releasing the arteries from the pressure of the surrounding nerve tissues, predisposes toward cerebral hemorrhage. Dr. Brown says these people after two or three mild strokes die of cerebral hemorrhage. So also says Marie. Indeed the patients are to be warned of hemorrhage. I thought it would be a good thing to bring this case before the Society, because it suggests a new pathology for some cases of hemiplegia. One of Marie's pupils, Jean Ferrand, in a Paris thesis of 187 pages, recently published reports of numbers of these cases. Whether there is anything in it or not I do not know. I, too, am skeptical in regard to the matter, being unwilling to throw overboard Charcot's time-honored theory and demonstration of miliary aneurisms; nevertheless I feel that anything emanating from Marie is deserving of respectful attention and examination, with careful search in post-mortems for the appearances here briefly referred to.

4. Presentation of a case on whom a nephrotomy, nephrectomy, urectomy, double epididymectomy and orchidectomy for genito-urinary

tuberculosis have been performed, Alex H. Ferguson.

Nephrotomy, Nephrectomy, Ureterectomy, Double Epididimectomy, and Orchidectomy for Tuberculosis.

Alexander Hugh Ferguson: Mr. Andrew L., now before you, is 43 years of age, weighs 208 pounds, and shows scars on the right lumbar and inguinal and right and left scrotal regions resulting from operations for genitourinary tuberculosis several years ago. While the abdominal wall is a little weak there is no hernia and although he has lost his right kidney and ureter and epididymus on both sides and the left testicle, he is able to work in his store every day, has gained 78 pounds in weight, is in excellent general health, urine is normal in quantity and quality and he is capable of satisfactory marital relations.

In 1890 his right kidney trouble began apparently the result of a chill following a wetting through and through from a cold rain. Within a few hours after his exposure he experienced a severe chill which was soon followed by a pain in the region of the right kidney, so severe in character that he sent for Dr. Jeffries of this city who gave him relief with hot fomentations applied locally and hypodermics of morphine. For seven years following this illness he suffered intensely from attacks of renal colic, becoming more frequent and severe each year. Eventually chills and fever were added to his recurrent attacks of suffering and when reduced to 130 pounds in weight, and no longer able to earn a living, he consented to an operation, which had been repeatedly advised.

Early in May, 1897, Dr. R. J. Ough of this city referred him to my clinic at the Post Graduate. He then complained principally of 1. Constant pain in the region of the right kidney for two weeks. 2. Attacks of exacerbating pain for seven years. 3. Tumor like swelling in right lumbar region developed recently and tender on pressure. 4. Chills and fever. 5. Radiating pain to right testicle and bladder during attacks. 6. Emaciation and weakness. The urine was scant, (acid in re-action and loaded with pus. The germs of tuberculosis were not found in it. It was evident that he had pyelonephrosis engrafted on stone irritation, or more probably tuberculosis.

On the 12th of May, 1897, I performed a rapid nephrotomy. The kidney and its pelvis were enormously distended with pus. A long incision enabled me to empty the pyelonephrosis speedily by mopping and liberal flushing with several pitcherfuls of water. Fully half the wound was left open, cavity packed with iodoform gauze and drained with two large rubber tubes. While immediate improvement was very satisfactory, the pus in the urine persisted, the kidney wound showed no attempt at repair, and exuberant granulation tissue, tuberculous in character, developed in the wound and invaded the subcutaneous fat, a microscopic examination of which pointed to tuberculosis.

On July 14th, October 13th, 1897, and January 5th, 1898, a free curettement under chloroform of the sinus (followed by carbolic acid 95 per cent cauterization) was made each time. During this period marked constitutional improvement occurred. He lost his hectic flush, fever and chills. His appetite returned and he gained 25 pounds in weight. With pus in his urine and a free discharge of pus and some little urine from the sinus leading to the kidney it was evident that more surgery was indicated. Before removing the diseased kidney an effort to learn the condition of the left kidney was made by means of the Harris segregator. I tried it thrice with the same result each time of obtaining pus from the left side and urine from the right of the bladder. The only explanation I can give is that the bladder openings of the ureters must in their development have crossed each other. The segregator demonstrated that urine was entering the bladder from one kidney only. The left kidney was palpably enlarged but not tender and most likely had been secreting nearly all the urine for several months. I had therefore no hesitancy in recommending a radical operation. February 19, 1898, I did a nephrectomy and a partial ureterectomy down to the bony pelvis. I button holed the abdominal wall nearly opposite the internal abdominal ring and brought the stump of the ureter through the opening and there fastened it. Owing to extensive and firm perinephritic adhesions the removal of the kidney was a difficult undertaking but nevertheless it was accomplished with dispatch without opening the peritoneal cavity. The organ was almost disintegrated, only a part of the upper pole could be microscopically recognized as kidney tissue and it too, was badly involved. The pelvis of the kidney was unrecognizable as such and the ureter was nodular and four or five times thicker than normal to near the brim of the true bony pelvis and completely occluded with tubercular products. His recovery from this operation was uninterrupted, leaving the hospital before the end of the fourth week in buoyant spirits, but with a healthy looking sinus, which soon closed.

April 20, 1898, accompanied by my friend Dr. Ough, he returned to my clinic exhibiting unmistakable symptoms and signs of double tubercular epididymitis. I then removed the diseased epididymus and vas deferens down to the vesicula seminalis on both sides, without injury to the testes or other structures which appeared not to be involved. The bladder, prostate and vesiculae seminales appeared normal. Again we had a beautiful recovery and he was discharged within two weeks after the operation. The laboratory report confirmed my diagnosis.

August 3d of the same year he came again. This time the left testicle had become involved and it too had to be sacrificed. There was a tubercular abscess in its interior.

The result of the nephrectomy in this case strongly supports primary renal tuberculosis and that the disease traveled down the ureter to near the bladder is undoubted. It is worthy of note that although the genitalia (epididymus on both sides, one testicle and vas deferens of both sides) became tubercular there has been no evidence of disease of the seminal vesicles, prostate or bladder. There has been no disturbance of urination and no urinary findings

to suspect disease of the parts mentioned. The interior of the bladder viewed with a cystoscope several times always looked normal and no tenderness of the seminal vesicles or prostate was ever discovered by rectal examinations. This rather disproves the idea that double tubercular epididymitis is only possible when the prostate is involved first. Painful and frequent urination usually the first symptoms of renal tuberculosis, whether the bladder was involved or not, was absent in this case. From the assertion of the patient that the urine had for seven years been cloudy and smoky in appearance off and on, points to hematuria as a frequent if not a constant sign.

His most prominent disturbance before mixed infection occurred was sudden and severe pain in the region of the kidney, intermittent and remittent in character simulating renal colic often so characteristic of stone in the kidney. This is unusual. The colic was of course caused by the passage of clots of blood or shreds of caseous matter. Now, however, the x-ray aids us in making a differential diagnosis, if both troubles do not co-exist, and even then the presence of stone is demonstrated.

This case illustrates the value of nephrotomy to nephrectomy when pyelonephritis is present. The evacuation and drainage of the pus enables the patient to improve so as to stand the nephrectomy later on, it being the more serious operation.

Although the tubercular microbe was not found in the disorganized caseous kidney tissue, it was discovered in the ureter, epididymus, testicle and vas deferens by Professors Klebs and Zeit. It was maintained by Klebs that the infection in the testicle excised was hematogenous and primary and that the disease of the epididymus that I had removed from it was quite independent. The testicle sacrificed had a tubercular abscess in its center, and inasmuch as there was no telling whether the other organ would become diseased or not, I have since often doubted the wisdom of the orchidectomy. I could have drained it and probably saved some of it.

In the surgical treatment of tuberculosis of the epididymus I am in favor of its early and extirpation. Along with it remove the vas deferens in its entirely, and should the seminal vesicle be also involved remove it too at the same time, through the perineum. I have repeatedly done this on both sides and established through and through drainage from both inguinal regions and omitting via perineal wound. In nearly all of my cases the testicle itself was not diseased. There are many personal and social reasons why the testicle should be saved.

5. (a) Exhibition of a case of Tabes with "Charcot's Joint" affecting the hip; (b) Presentation of cases recently operated on for Fracture of the Patella, M. L. Harris.

Tabes.

M. L. Harris: This case promised to come down tonight but at the last moment refused to come. He is 49 years of age, had his initial lesion 8 years ago. He presents all the typical symptoms of tabes, incoordination in locomotion and station and the eye symptoms, loss of patellar reflex, retarded sensation, etc. Up to the time he entered the hospital in August he was able to be around all right. Ten days before he entered he began to have trouble with his hip and leg, the leg swelled considerably and there was swelling about the hip. After entering the hospital and being put in bed under treatment the swelling diminished and he presented the characteristic symptoms of involvement of the hip joint. The case is particularly interesting because involvement of the hip joint is not so common as involvement of the knee in cases of tabes. It is also interesting from the amount of periarticular thickening we find. There is also a mass within the pelvis which appears to me to be an exostosis because of its large size, irregular outline and the fact that he has two smaller bony tumors one on each leg near the knee. The skiagraph shows a large amount of erosion and absorption from the head and neck of the femur and also a peri-articular deposit particularly above the trochanter major. The joint is not painful, the patient walks on it, and when he steps you see him sink down as the bone slides away up. It almost dislocates the range of motion is so great. He can walk on it and manipulate it without the pain which is characteristic of these joints.

Fracture of the Patella.

I was led to present these cases by an article which recently appeared in Langenbeck's Archives by Mueller of Berlin, on the treatment of fractures of the patella. In this article he attempts to show that fractures of the patella treated by non-operative measures have shown better results than those treated by operative procedures. As this did not accord at all with my experience in operating these cases, and with the experience of the American surgeon, so far as I am familiar with the work, I was led to present some cases. Mueller in his article says that the average length of time of the treatment of fracture of the patella by splints and bandages is 98.7 days, a little over three months. The average length of primary treatment, that is the time the patient is in the hospital, treated by suture is 93 days. The after treatment of fracture of the patella by the non-operative method is 169 days, by operative procedure is 218 days, or 40 days longer on the average when treated by the suture; that is nearly six months by the non-operative method and over seven months by the operative method. This did not agree with my own experience, and so I was led to present these cases.

Case 1. A young man 26 years old, had his patella fractured by the kick of a horse; a direct fracture of the patella a little below the center. It was a complete fracture not only involving the patella but the quadriceps fascia on each side so there was a wide separation in which two fingers could be easily laid. Furthermore, it was found at the operation that the lower fragment was everted so that every attempt to draw them together failed, the articular surface was the only one that could be brought in contact with the upper fragment. The fractured surface looked directly forward and against the skin so that any treatment by bandages, however well the parts might have been approximated, would

have failed. He entered the hospital December 24, 1902, operation was done within a few days and in less than a week he was up and around the hospital, leaving the 3d of February, 60 days from the time of fracture. He went to work a little over a month after leaving the hospital, say 100 days from the time of fracture he was at work and has remained at work since. The result is perfect, he has never had any trouble with the joint. He does all his work, runs, jumps, and dances without evidence of weakness.

Case 2. The other case, a young man 19 years old, had his patella fractured while wrestling. He struck his knee against his opponent, with sudden fracture of the patella a little below the center, with wide separation and complete laceration of quadriceps fascia laterally. He entered the hospital a little over three weeks ago. The patella was treated in the same way and for three weeks he has been up, he was in bed only four days, and then around with crutches.

I think the method of operating has a great deal to do with the result in these cases. You notice I turn down a large flap so there is no scar across the patella. I am very careful that the interior of the joint is not handled so that it be infected. I pass a wire around the fragments, the bone is not drilled. I use a bronze wire that has a great deal of tensile strength and this is passed around the fragments, twisted and left in laterally so as not to touch the articular surface. The aponeurosis is sutured together and the flap closed.

I had another case of refracture of the patella which I hoped would be here tonight. It had been treated with splints but after going out he made a mistep and fell separating the fragments again. I used the wire suture and he was out in two months.

I believe the statement made by Mueller is misleading and does not agree with the work of American surgeons in wiring this bone.

A. H. Ferguson: I agree with Dr. Harris in everything he has said in connection with fracture of the patella. Those cases I operate on early and we get exactly the same result Dr. Harris does, get them up in three weeks and they leave the hospital before six weeks, going to work in three or four weeks afterwards. So the statistics given by Mueller are not as favorable as those we get on this side. With regard to non-operative treatment, it is utterly impossible to get bony union in most cases because of one fact, and that is that you get a curtain of fibrous tissue implanted in the surface of the fracture, which prevents bony union. The patella is a sesamoid bone, it has fibrous tissue in front and when it fractures it over stretches and ruptures this fibrous tissue and when it goes back again we get that curtain, especially in those cases where the knee bends completely after the fracture; and then you have to operate to ensure bony union.

I was glad to see the horseshoe shaped incision made by Dr. Harris. I made it below instead of above this patella. A case I operated two weeks ago had the joint filled with blood and I had to wash it out with normal salt solution, and I then drained with silkworm gut from both sides around under the patella, removing it after six or seven days. Silkworm gut will drain all the serum and no accumulation can take place in the joint. I use it exclusively in draining amputations of the breast and so on. The results of these two cases are complimentary to Dr. Harris and show good work.

M. L. Harris: I have nothing special to add. I would say that the blocks and clamp treatment goes back to my earliest recollection; we used them twenty years ago in Cook County Hospital in the same way, but we never found any clamp or dressing that would remove the fibrous tissue that falls in between the fragments, and never found any clamp that would approximate the aponeurosis of the quadriceps extensor when torn. The tearing of this aponeurosis is of more importance, or more damage to the patient than is a fracture of the patella in which there is no separation and no tearing of the fibrous extension of the aponeurosis. Such a fracture will recover with good functional results. But a fracture of the patella which is separated widely and in which there is laceration of the aponeurosis, when treated by the non-operative method is liable to be weak and the patient disabled on an average of 25 per cent in following his vocation.

These points, if there were no others, show the advantage of operative treatment in fractures of the patella in which there is wide separation and laceration of the fibrous aponeurosis of the extensor quadriceps. It is of as much importance to suture this fascia as a part of the extensor muscles as it is to approximate the parts of the fractured bone.

A regular meeting was held October 14, 1903, with the President, Dr. R. B. Preble, in the chair.

Xeroderma Pigmentosum.

James Nevins Hyde: With the permission of the President, I wish to interrupt the usual order of the evening by showing three cases of unusual rarity.

Our first knowledge of this disease (xeroderma pigmentosum) was obtained from observation of two patients made by Prof. Kaposi, of Vienna, in 1863. Subsequently, when he wrote on the subject in 1870, he had seen two more cases. A careful study of the records in Europe indicate that there are scarcely more than one hundred and ten cases on record there, and, including these three cases, we have a little less than a score on record in America. These three children are a brother and two sisters of one family. The father is a native of West Prussia; the mother of Oshkosh, Wisconsin; and they have had a family of eight children. Three boys born first are perfectly well; then came these three children; and afterward two others who also are sound. The youngest, an infant about one year old, was stripped and examined by me two days ago without exhibiting the slightest evidence of disease. The dermatosis is uniform in its appearance, and the three cases before us illustrate perfect types of the affection. There is no symptom of the disease which cannot be seen in other cases. The peculiarity of xeroderma pigmentosum is a complexus of symptoms at an early age, and these symptoms can readily be grouped into four tolerably dis-

tinct categories, although there are authors who add several others. These others I believe to be sequences of the primary lesions.

1. Pigmentation, or freckling, is very distinctly marked, usually mostly on the exposed surfaces of the body, face, hands, forearms, upper chest, and in some instances, as in the case of the child in my arms, over the lower extremities and dorsum of the feet, varying from a light fawn to a deep chocolate color, deepening with years. Sometimes there are distinctly isolated freckles or pigmentations; in other cases there is confluence forming areas without very distinct circumscription.

2. Whitish spots, maculae, which are atrophic in character. These symptoms precede and sometimes follow the freckling. The white spots are usually most conspicuous upon the exposed surfaces of the body, often about the orbits and other portions of the face, but they are also visible in other regions. The maculations are smooth, whitish, slightly wrinkled, atrophic, and in some cases shrink so as to produce cicatricial contracture.

3. Telangiectases, minute blood vessels developing in the skin, which may be hardly visible to you in the light of the evening. In the daylight there is a strong contrast between the freckling or pigmentation and the telangiectases. These vary in size from minute tufts to pinhead sized elevated lesions.

4. The formation in different parts of the body, on the hands, face and elsewhere, of nodes, nodules, or warts as they are sometimes called, practically all of them epitheliomatous; so much so that the disease has been described as a "senilitas praecox." The first patients I saw were examined by me in Paris in 1888, and these distinctly, from the beginning, showed "precocious" epitheliomata of the skin. All the other symptoms of the disease described by authors, in my judgment, are secondary to those I have outlined under the four heads given. They are ulceration, breaking down of the warty growths, crusting, cicatrization following the ulceration, and in some cases the formation of a distinct epithelioma from the cicatrix. Sometimes there is a furfuraceous desquamation of the scalp. The warty lesions in most cases are precisely those which we see in persons of advanced years suffering from epithelioma. This little boy ten days ago had an area of ulceration near the ear, which, if it had been somewhat enlarged upon a photographic plate, would have answered admirably for a picture of the "rodent ulcer" of our English friends, a strictly typical epithelioma; and the epitheliomatosis which is going on in the skin here and there, not only in these cases but in the others I have seen, is one of the most marked features of the disease.

I will say but a few words with reference to the etiology. You will readily understand that a man who dogmatizes about a disease of which there are possibly only 150 or 200 cases in the world is speaking about an affection of which very little is known. The etiology is obscure. A large number of authors lay it down as positive that the lesions are induced in skins which are sensitive to the action of light, pointing as a prime feature in all cases to the fact that the exposed surfaces of the body are first and chiefly involved, and that other regions of the body are only secondarily implicated. This eldest child has freckles extending down over the posterior aspect of the body toward the sacrum, and from the knee downward. It is held by those who believe that the light directly affects these cases, that the light in children of sensitive skin percolates through the clothing and produces the disease in that way.

The ocular lesions in these cases are keratitis and corneal opacities. You see all these children are blinking in the light. Although our oculists are disposed to believe that the ectropion is the chief cause of the keratitis, inasmuch as epithelioma has sprung from the ocular globe in similar cases, I am inclined to the belief although I would not be understood as dogmatizing on the subject, that the condition recognized upon the skin is to a degree due to the morbid tendency of the conjunctiva and cornea.

We are treating all the epitheliomatous lesions of these little patients with the x-ray and in almost each instance a great improvement has followed. We have done this in the face of the apparent objection to such a therapy that the action of the x-ray is of itself capable of producing pigmentation, telangiectasis, and, in instances, epithelioma.

The prognosis in all cases is grave. A few patients have been seen where the disease seems to have been arrested for six, eight, or more years. Most of them develop at the close of the first year of life. These children exhibited their first symptoms at about that time. The earliest age on record at which the disease has developed is between the third and fifth months. A few cases have occurred in people of 70 and 90 years of age, but we must accept such a report with reserve. The light colored, often reddish tinted hair is a conspicuous feature of many patients.

Symposium on Syphilis.

Syphilis of the Heart and Aorta.—Historical.

R. H. Babcock. Our knowledge of the pathological changes which take place in the heart as a result of syphilis is of comparatively recent date. The first authentic case of the kind was one of gumma and endocardial thickening published by Ricord in 1845. This was followed by a similar one by Lebert 4 years later after which a gap of 8 years ensued and then in 1858 a case was recorded by Virchow. This famous pathologist then pointed out for the first time that sclerotic changes might be produced by luetic infection. It was about this time or a little later that Fournier began to direct attention to syphilitic manifestations as seen in the central nervous system and their great clinical importance. The following 10 or 15 years witnessed a great awakening to the fact that this disease does not spare the nervous and circulatory apparatus as had previously been supposed. Numerous examples of cardiac syphilis were reported by observers on the Continent and in England, L'Honneur, Haldane, Wilks, Hutchinson, Wagner, Scarensio, Nalty, Lancereaux, Fowler. These cases were the accidental discovery of the dead house, and it was not until late in the seventies that the clinical manifestations of cardiac syphilis began to be recognized and published. Semmola's name figures prom-

inently among such reports, while Huchard, Hallopean, Sacharjin in particular pointed out the etiological connection between cardiac lues and attacks of angina pectoris. The first elaborate monograph on syphilis of the cardiac structures, however, was from the pen of Lang in 1889 and in 1893 Mracek published another exhaustive paper wherein were collected 100 cases out of the literature, so that as remarked by Runeberg* in his recent excellent contribution to this subject it appears that the actual number of recorded cases had not been so few as was supposed. Since the appearance of these papers clinicians have not left the observation of cases to the pathologists but have been reporting a steadily increasing number of observations until now cardiac syphilis can no longer be said to belong to the great rarities of medicine.

Morbid anatomy. The special tendency of syphilis to attack blood vessels, which was pointed out by Heubner in the case of the brain, is also apparent in the heart, and consequently the most frequent pathological change noted is endarteritis affecting the coronaries. This process is more or less circumscribed and either through cellular infiltration of the intima, or by fibrous thickening of the media and adventitia or by a combination of both it leads to narrowing or occlusion of the lumen of the vessel. The interference with the circulation thus occasioned leads to areas of myomalacia or to fibroid degeneration in the parts supplied by the affected vessel and in the latter event, possibly to cardiac aneurism. There is nothing in such changes peculiar to luetic disease excepting perhaps their tendency to involve limited area and the tendency of the sclerosis to exist independent of degeneration of other arteries, unless it be the aorta. According to Runeberg it is this liability of the sclerotic change to limitation to the heart rather than any peculiarities in the changes themselves, which enables us to recognize their specific origin.

Another manifestation of myocardial syphilis is the occurrence of gumma. It is much more rare than the degenerative process just noted but is so distinctive that its nature can not be mistaken. It was this form of the disease which was first described by Ricord in 1845. The gumma may be single or multiple and may be found in any portion of the myocardium, i. e. ventricle, auricle or septum. It is apt to be associated with fatty or fibrous degeneration and with thickening of the pericardium overlying the tumor. Lastly, the walls of the heart may be hypertrophied or dilated or both, or the organ may not display obvious alteration in size. This is especially the case when the chief or only change is sclerosis of the coronary arteries.

Any or all of the cardiac structures may be the seat of luetic disease, but the liability of the sac and of the endocardium to involvement is very much less than is that of the muscle. Mracek whose monograph on syphilitic pericarditis may be regarded as authority on the subject, states that the epicardium is the layer affected and that the process is essentially chronic. The changes are therefore a fibrous thickening usually circumscribed and very rarely leading to loose adhesions between the two layers. Total obliteration of the sac is said never to be discovered.

This is owing to the fact that an exudate is exceptional and when this does occur it is fibrinous rather than sero-fibrinous, (Mracek). The changes of the epicardium are always associated with those of the heart-muscle and generally take place in areas overlying gumma or fibrosis of the myocardium.

Involvement of the endocardium is likewise rare and when observed is in connection with changes in the myo or pericardium or with sclerosis or aneurism of the aorta. Acute endocarditis is not occasioned, for lues here as everywhere else shows its tendency to slow sclerotic alteration. The valves most frequently affected are the aortic semilunar which become incompetent either in consequence of the sclerotic process found also in the aorta or secondarily to aneurismal dilatation.

Syphilitic disease of the aorta manifests itself by the same changes as in other parts of the arterial system: viz. an endarteritis characterized by either diffuse or circumscribed infiltration of the intima and media with cells which undergo fatty degeneration and ultimate transformation into cicatricial tissue. This sclerosis differs therefore from sclerosis due to other causes by the absence of atheromatous ulcers and deposists of lime in placques and granules. The walls of the vessel are weakened by this sclerotic process and are peculiarly liable to aneurismal dilatation. These changes within the aorta may or may not be associated with similar alteration of the coats of the coronary arteries and with the alterations of the myocardium and valves already described.

The likelihood of specific disease to lead to aortic aneurism is so pronounced that the development of the latter in a person under 50 is presumptive evidence of his having had syphilis even in the absence of history to that effect, or of distinctive pathological changes in other organs.

The precise ratio of syphilis to aortic aneurism cannot, however be definitely stated since authors differ in their statistics. The per centages given by Runeberg are: Gerhardt 56, Welch 66, Etienne 69, Malmsten 80, Rosch 82, and Heller 85. Drummond's 100 per cent is probably altogether too high just as M. Schmidt's 29 is altogether too low. The truth probably lies somewhere between these extremes, i. e. about 60 per cent.

Finally, in concluding the pathological anatomy it may be stated that the cardiac manifestations of syphilis are generally in connection with lues of other viscera although such is not necessarily the case. Moreover they belong to the late manifestations of the infection for although derangement of cardiac action has been observed in the fore part of the secondary stage, this is probably functional and attributable to constitutional disturbance rather than to alteration of the cardiac structures.

Symptoms. These are determined by the seat and nature of the pathological changes. Not infrequently they are entirely latent and the

*Die syphilitischen herzaffectionen. Deutsche Medicinische Wochenschrift, Nos. 1 and 2, 1903.

disease is first declared by the sudden death of the patient. Even when cardiac syphilis becomes a clinical entity, its manifestations can not be said to be distinctive. Coronary sclerosis of this origin leads to angina pectoris, but the attacks are only peculiar in that they occur at an earlier age than is the case in coronary obstruction from a different cause, and it is this fact which aids in the diagnosis of the true nature of the primary affection. According to Runeberg there is also apt to be a want of cardiac hypertrophy and of objective evidence of sclerosis of other arteries. Besides anginal paroxysms there may or may not be disordered action of the heart, as shown by the pulse, depending upon the location and extent of myocardial degeneration.

The symptoms most commonly attributed to heart-syphilis are tachycardia and arrhythmia. Semmola lays particular stress upon these and goes so far as to assert that such derangements of cardiac action in the absence of other recognizable cause, as senility, valvular lesion, dilatation etc., may be put down as due to syphilis. Writers also speak of dull precordial pain or distress apart from distinct angina as sometimes observed and in more than one such case which terminated in sudden death post mortem examination disclosed luetic disease. Runeberg also speaks of the discovery in cases of myocardial syphilis of a muffling or tonelessness of the first sound at the apex together with, it may be, the absence of signs of cardiac enlargement.

Valvular disease of luetic origin displays features seen in similar defects from other cause. It is well to bear in mind the predilection of the aortic valve to syphilitic sclerosis and to incompetence whether structural or relative. Syphilitic pericarditis is very likely to be latent and according to Mracek without signs of exudate. It is generally first recognized at the autopsy, although an indefinite pericardial squeak or rub is not impossible.

Syphilitic invasion of the aorta is usually, perhaps only, declared during life by aneurism, and the symptoms of this affection are too well known to require description. From the foregoing it is manifest how true is the remark that syphilis of the cardiac structures possesses no characteristic clinical picture.

Diagnosis. The number of cases of cardiac syphilis in which clinical recognition is possible must always be greatly below that in which diagnosis is either impossible or conjectural. The reason for this lies in the comparative infrequency with which a definite history of luetic infection or of plain signs of some of its late manifestations are combined with objective evidence of cardiac involvement, and yet the increasing number of published reports shows that heart syphilis is possible of diagnosis in many cases which escape clinical recognition as such.

The data warranting a diagnosis, are, (1) a reliable history of chancre 5 to 10 years before which was inadequately treated or, (2) definite objective signs of such infection together with (3) symptoms of cardiac involvement which can not reasonably be attributed to any other etiological factor. Again an inferential diagnosis may be made and an anti-luetic treatment instituted in cases which manifesting cardiac symptoms yet do not furnish either a satisfactory anamnesis or any of the late signs of syphilis, provided no cause for heart disease can be found in the patient's age or in some antecedent infection as rheumatism. On the other hand diagnosis, i. e. an etiological diagnosis must always be problematical in cases combining the history or signs of old lues with some other condition capable of producing cardiac or cardio-vascular disease. In such an event a therapeutic test may be applied. For instance, I have in charge a man of 42 suffering from cardiac dilatation and inadequacy whose history and habits render syphilitic infection years ago not impossible, but on the other hand his immoderate use of whisky and his slightly stiff arteries together with his former corpulence are in themselves sufficient to have caused cardiac inadequacy and chronic myocarditis without syphilis. In my service at Cook County Hospital was a negro of 30 with insufficiency of both mitral and tricuspid valves, a pericardial rub, ringing aortic second tone and stiff radials who admitted syphilis about eight years ago for which he was treated only six weeks and whose congested liver felt rather irregular and nodular and whose postcervical, epitrochlear and inguinal lymphatic glands were palpable. In this case I think the cardiac condition is very suggestive of chronic myocarditis and muscular insufficiency of the valves due to the lues, and yet it is possible that the vascular and renal condition for he has chronic nephritis, may be responsible for the cardiac incompetence. These two cases illustrate the difficulties of diagnosis and the caution that should be exercised.

Angina pectoris of the kind known as (true), occurring in a person, below the age of 45 and without objective evidence of arteriosclerosis of peripheral vessels should always be regarded as suspicious of lues and warrants the diagnostic test of specific treatment. In fact Runeberg says that nine times out of ten such angina is syphilitic.

It should be remembered however that if the individual is a heavy smoker there is a possibility of the angina being due to nicotine poisoning and the effect of withdrawing the tobacco should be ascertained before one commits himself to the diagnosis of coronary sclerosis due to syphilis.

Semmola considers tachycardia and arrhythmia occurring in a person under the age at which chronic myocarditis is likely and without other etiological history, sufficient ground for subjecting the patient to vigorous anti-syphilitic treatment. From the foregoing it is evident that caution is called for in the diagnosis of cardiac syphilis and that on the other hand the possibility of its presence should never be forgotten. Finally when in any suspected case one is still in doubt after a painstaking search for trustworthy data, a therapeutic test may be made and will clear up the nature of the case.

Prognosis. This should be looked upon as doubtful. Energetic anti-luetic treatment may remove all symptoms, but the character of the pathological changes in heart and aorta pro-

duced by syphilis are such as in most cases preclude the possibility of a restoration of former integrity. In aortic aneurism in particular no amount of specific medication avails in the vast majority of instances to cure the disease. Syphilitic angina pectoris may on the contrary be cured or strikingly ameliorated by a vigorous course of mercury and iodides. Semmola is authority for the statement also that disordered heart's action of this origin may be entirely corrected by appropriate treatment. Valvular disease due to sclerotic change of syphilitic origin is not curable by specific medication, but relative insufficiency may be greatly improved if not corrected. Finally, it should always be borne in mind that sudden death is frequent in cases of cardiac syphilis and hence favorable results from treatment must not be too confidently predicted.

Therapy. The nature and details of the specific treatment called for in this class of cases will be given by others far abler than myself far more familiar with its application. I need only say such therapeutics should not be omitted, but when cardiac incompetence is present such medication should also be combined with other measures generally recognized as appropriate to such symptoms, viz.: rest, digitalis, strychnia, nitroglycerin, cathartics, etc., as indicated. Experience teaches that without mercury and iodides such tonic and depleting measures are of doubtful value and in no wise curative, but if no improvement follows the prolonged and energetic use of specific remedies, then reliance must be placed on the so-called heart tonics alone and particularly on such rules for conduct as will conserve cardiac power and protect the organ from injurious strain.

Syphilis Hereditaria Tarda.

Isaac A. Abt: Cases of hereditary syphilis in which symptoms of the disease manifest themselves during the late period of childhood, during the period of puberty, or adult life, are spoken of as syphilis hereditaria tarda. Fournier believes that all syphilitic cases should be included in this class which originate from syphilitic parents, and in whom the disease manifests itself after the third year or during childhood, youth, or adult life, no matter whether the individual showed symptoms of congenital syphilis during infancy or not.

There are two classes of cases. In the first class, the patient has remained in perfect health without any evidence of hereditary syphilis, until an advanced period of childhood or even later when one or more of the symptoms of late hereditary syphilis develop. In the second class, the late symptoms have been preceded by the usual symptoms of congenital syphilis as it occurs in infancy. There is no doubt that cases of the latter class occur commonly enough, and syphilographers are agreed that the disease may remain for a long time latent, and that late manifestations may occur which are characteristic enough as to permit this special designation.

So far as the first variety is concerned, there is considerable discussion as to whether or not it occurs. Fournier, Neumann, Hebra, Sigmund and others believe that these cases occur; while Kaposi, Barensprung, Lange and others believe that they are not authentic. They say that if this disease be congenital, there must have been infantile manifestations.

It must be conceded that the eruption of congenital lues in infancy may be so slight as to be easily overlooked, and the other early symptoms like coryza, fissures, seborrhea, coffee-colored skin may be trivial. Hence, there may have been a slight infantile manifestation of the disease and it may have been overlooked.

Again, there are authorities who take the extreme view that the late symptoms of congenital syphilis which belong to the first variety, are not congenital in origin at all, but are the tertiary form of the acquired disease. Henoch, for example, takes this view. He says he would not pronounce a case as late hereditary syphilis, without early manifestations, unless he himself had observed the child from birth and found it free from every syphilitic taint during infancy. He would satisfy himself that one or both parents were syphilitic and he would desire to exclude the possibility of the child having acquired the infection. He has never been able to do this in a single case. He concludes that not a few of the cases that have been reported as late hereditary syphilis without infantile manifestations, are in reality cases of acquired syphilis. It is also true that in the late cases which show tertiary manifestations, and who give an unreliable history, it is almost impossible to say whether one has before him a case of congenital or acquired syphilis with tertiary phenomena. But there are well authenticated cases in which the late symptoms were manifestations of a congenital syphilis, in which no early signs were present.

Kassowitz and Hochsinger have taught us that congenital syphilis may remain latent for a long time, and finally present late manifestations which resemble the tertiary symptoms in the adult. They collected 63 cases of hereditary syphilis during the period of infancy. Fifty-two of these were three months old or less. Some of these cases were under observation for four years; 34 were under observation between six and twenty years. Notwithstanding that 34 cases were under continuous treatment, 11, that is, one-third of the number, showed tertiary symptoms between the 7th and 19th years. The late manifestations consisted of gummata in the bones, particularly the tibia and nasal bones, the hard palate; also on the tongue and pharynx. Glandular enlargement was observed as well as retarded mental and physical development.

Age of Occurrence.

The disease may begin in the third year. It increases in frequency from the fourth to the tenth year, and reaches the maximum from the eighth to the tenth, diminishing in frequency from this time. Statistics show that 7 reported cases occurred after the fortieth year. About three-fifths of the cases which have been collected, were females.

Symptoms.

Bone Lesions. In 212 of Fournier's cases, disease of the bone occurred in 82, and in 11 of Hochsinger's, bone lesions occurred four times;

thus these were present in two-fifths of the cases. Bone lesions occur most frequently between the fifth and the twelfth years.

Periostitis is the most common form of bone involvement. It attacks most commonly the tibia in its lower third, over the anterior surface. The forearm, however, or the lower half of the humerus may be involved in the characteristic way. The perostitis manifests itself by the gradual development of a circumscribed thickening of the bone. During the first stage of the process, pain is present. This is usually worse at night, and is commonly thought to be rheumatic in nature. After the process has been established for some time, the periosteum thickens. One finds at this stage that pressure over the bone is as a rule not painful, though there may be areas which are sensitive. The skin over the thickened bone is not reddened. The course of this thickening is chronic, and tends to deformity. It goes on for months or years, the deformity becoming more and more marked. As has already been noted, the anterior portion, or the crest of the tibia is the most frequent seat of the disease. When it is involved, the anterior border curves forward, at least in a certain area, and a deformity results which Fournier believed resembled a saber blade; hence the name, "saber-blade deformity." In some cases the bone is bent inwards at its lower third, resembling somewhat a rachitic curvature. In others, the entire bone is affected so that it is enlarged to nearly twice its normal dimensions.

Besides the hyperplastic form of periostitis which results in the over-production of bone, and deformity, a gummatous form may occur. These gummata are localized swellings of variable size; they are found over the tibia, but may involve also the frontal bone, the sternum, and other bones. At their first appearance, these lesions are very painful. They may remain for years without undergoing any change, or they may disappear even without treatment, leaving an area of excavated bone which becomes adherent to the overlying skin. Most frequently, however, the gummata soften in time, suppurate, and break through the skin giving rise to sinuses which usually remain open and discharge for a long time. These sinuses are usually multiple. As has already been said, they may occur on the tibia; it is not rare, however, to find them involving the cranial bone.

A gummatous osteomylitis has been observed as a late symptom of hereditary syphilis. It attacks by preference, the epiphyses in the neighborhood of the joints.

The joint affections are not uncommon. They begin with severe pain, with little or no swelling; later on, however, a hydrops is observed. This is usually bilateral. The knee-joint is the most frequent seat, though other joints are not exempt. In other cases the capsule of the joint becomes infiltrated and tense; the swollen joint presents the appearance of a tumor albus. In the syphilitic cases, however, the swelling is almost always bilateral, which is seldom the case in tuberculosis. The concomitant signs of syphilis are generally present and assist further in the differentiation between tubercular and syphilitic synovitis. The following case has been under my observation and is of interest in this connection.

W. L., is now about 15 years old. His family history is significant. The father was undoubtedly luetic before his marriage. The mother had two miscarriages. These miscarriages were followed by the birth of a still-born baby. In the course of time, five children were born who are all living and apparently in good health. The sixth child, our patient, is the youngest, he was born about fifteen years ago. Shortly after his birth the father died suddenly, of a myocardial and vascular degeneration, aged about 49.

The child seemed normal at birth, no early signs of syphilis were observed. His development, however, was slow. His nutrition was good; he showed no marked evidences of rickets. His temporary teeth were erupted at a late period and remained for a short time, when they decayed and fell out. His permanent teeth were erupted in the due course of time. The upper incisors were grooved on the cutting edge, the enamel was exposed, and by the time he was 14 years old, four had dropped out. The boy's head is massive; its frontal portion is quadrilateral, the parietal eminences are protuberant, the longitudinal suture is slightly depressed. Intellectually, he is backward, though not idiotic.

At about his tenth year, he complained of pain in his left leg. At this time the crest of the tibia became thickened and deformed, sabre-blade shaped, the region of the ankle joint was also observed to be swollen. About a year later he complained of a pain in his knees. Both knees have been swollen for the past four years, slightly fluctuating, and are undoubtedly distended with fluid. His elbow joints are also involved; in the left one there is great limitation of motion. He has never shown any eye symptoms, nor have there been any ear symptoms. The prolonged use of iodides has brought some relief, though the synovitis in knee and elbow joints continues.

Cranial Localizations. Infantile syphilis leaves behind the following deformities: (1) Frontal; Olympian forehead, convex in front, high and large; forehead with lateral bosses; keel-shaped forehead with median boss. (2) Lateral and postero-lateral; parietal bosses, transverse enlargement of the cranium, **natiform cranium** of Parrot; cranium shaped like the buttocks, swollen in the supero-posterior half (occipito-parietal region), with a groove separating the two lateral tuberosities, as the intergluteal fold separates the buttocks. (3) Asymmetry of the cranium. (4) Hydro- and microcephalus.

The Skin.

Fournier has described the skin lesions in detail. They usually appear at about the age of puberty. They consist of subcutaneous nodules, are composed of syphilitic granulation tissue of firm consistency. They vary in size from a pinhead to a pea. Their color is brownish red. The nodes not infrequently break down: the defect in the skin is covered by crusts. These nodules arrange themselves in a characteristic way. They group themselves to form a circle

or a part of a circle, which may vary in size from a silver dollar to the palm of the hand. Sometimes they assume the form of a semi-circle, or a horseshoe. The semi-circular forms frequently from contact with one another, form figures, and often present a wreath-like appearance. These figures locate themselves by preference, on the forearms, the face, or the legs. These nodules frequently break down to form ulcers. The ulcers have rounded, thickened, indurated borders and a base which is depressed and has the appearance of being scooped out. In healing, the ulcer leaves a smooth white scar.

The eruption resembles lupus more than any other skin lesion, but the nodules of syphilis are hard, dark-colored and tend to arrange themselves in such a way as to form figures. In lupus, the nodes are soft and bright red. The most frequent situation is upon the face or upon the upper part of the legs or thighs.

Nose.

The nose is very frequently involved, though for a long time the only symptom indicating a lesion, is a stubborn coryza with much secretion. The discharge is thick and forms crusts, which frequently obstruct the nares. Small gummata form on the mucous membrane of the nose. They remain quiescent for a long time, but are liable to ultimately ulcerate. These ulcers are covered with a dirty-appearing, foul-smelling membrane. The ulcers give rise to the fetid discharge, the so-called "syphilitic ozena."

The anterior nares or the nasal septum may become ulcerated similarly as in an attack of lupus, only that the syphilitic ulceration is less regular; it is, however, much more rapid in its destruction. All the bony structures of the nose may be attacked. The turbinated bones, the vomer and the ethmoid may necrose. In some severe cases the nose may be entirely destroyed in a few weeks. In a majority of the cases with nasal necrosis, the nose presents more or less deformity of the saddle type.

Mouth and Pharynx. In a similar way, gummatous inflammations of the mucous membranes of the gums, pharynx and palate lead to necrosis and perforation.

Larynx. In a few of the reported cases, laryngeal involvement has been noted. Deep seated infiltration and ulceration have given rise to symptoms of laryngeal stenosis during life. If the ulcers heal, scar tissue results, and disturbances of the laryngeal function ensue.

Lymph Nodes. While the lymph nodes are not usually involved in the early manifestations of congenital syphilis, they occur quite commonly as a late manifestation. They enlarge to a certain size and then remain enlarged for years. They do not tend to become painful, and are found most frequently in the neck and below the inferior maxilla. The axillary and inguinal glands are sometimes involved. Enlargement of the mediastinal and mesenteric glands has been observed. The cuboidal glands are sometimes enlarged.

Hutchinson's Triad.

Three symptoms which are particularly characteristic for congenital syphilis, were first described by Hutchinson; hence the name. The symptoms are (a) interstitial keratitis; (b) labyrinthine, or central deafness; (c) deformity of the upper incisor teeth.

Teeth.

The temporary teeth show no signs which are characteristic for syphilis; they tend to decay early, especially the upper central incisors. In syphilitic infants the formation of gum boils is occasionally observed, with subsequent extrusion of the crowns of the teeth from the abscess sacs. The changes which are noted in the teeth occur in the permanent set, and are manifestations of late hereditary syphilis.

The Deformities of the Teeth. The deformity which Hutchinson has described as characteristic for the diagnosis of late hereditary syphilis, occurs exclusively in the two upper central and permanent incisors. These teeth are distinguished by the fact that they have been both retarded in their development, that they are smaller than the other incisors, and also that they tend to converge. They assume a screwdriver shape, and the free, cutting edge shows a central elliptical concavity. Sometimes some structural changes are noted on the lower incisor teeth. At other times too, the canines have been supposed to undergo these changes. The enamel is generally deficient in the center of the notch. It is not evidence that congenital syphilis is not present because the teeth do not show the atypical changes described by Hutchinson.

Interstitial Keratitis is probably the most frequent of Hutchinson's symptoms. It usually occurs between the ages of six and fifteen, but is sometimes seen as early as two or three years. One eye is usually attacked and the other follows shortly afterwards, a few weeks, rarely a year or two. Clouds of opacity of varying density appear in the cornea, and gradually coalesce, until the whole is like ground glass. The episcleral vessels are injected, and a vascular fringe may invade the cornea, forming the so-called salmon patch. Although the sight may be temporarily lost, the usual tendency is to recovery and complete clearing of the cornea. Fournier denied that all cases are syphilitic, but thinks some are due to malnutrition. Iritis is not an uncommon complication.

Disseminated choroiditis may be present in late congenital syphilis; taken together with the other symptoms, it aids in establishing a diagnosis; if found alone, it is of doubtful value.

Labyrinthian, or Central Deafness. Deafness develops during the period of childhood, at the time of puberty, even later. It usually begins with the occurrence of noises. These are usually very annoying. Sometimes too, attacks of vertigo occur. At this period, the child complains of hearing poorly with one ear. This condition increases in severity more and more until in the course of two or three months the child is totally deaf in one ear. After a shorter or longer period, the same state of affairs occurs in the other ear, with the same ultimate results. In these cases the middle ear remains intact, and the evidence is in favor of the fact that the lesion is a central one. The deafness

is complete, and does not improve under specific treatment.

In addition to what has been said, it may be added that an otitis media purulenta sometimes occurs. According to Fournier, middle ear disease which is due to syphilis is ushered in without any pain. This is no more true of syphilis, however, than it is of tuberculosis.

Fournier reports the following typical cases in which Hutchinson's triad of symptoms were well marked. I cite it in detail.

M. X., aged 30, consulted Fournier on account of some lesions on the penis of three weeks' standing. He was astonished at their appearance. On examining the lesions, F. saw at once that they were gummatous ulcerations. The patient denied absolutely having had any venereal disease whatever. Fournier then examined his body, and began to suspect hereditary syphilis, on account of—after long and patient investigation—discovering the three following signs: Deafness, bilateral. The patient was hard of hearing, and had been so since childhood, yet he thought there had been no discharge from the ears. Dr. Hermet examined his ears and reported as follows: On the right a watch is only heard at four inches. On this side the tympanum is deformed, thickened, with fibrous bands over its surface. There were no perforations, but linear perforations had evidently been present at some previous time and cicatrized. Ossicles apparently semi-ankylosed. On the left a watch can be heard only in contact. There is a perforation of the tympanum at the handle of the malleus.

2. Keratitis. About the age of fourteen, the patient had double keratitis. This was severe and persistent. There was nearly complete blindness for several months. At present there are no appreciable traces left.

3. Bone and skin lesions. In childhood one knee was severely affected, as shown by marked deformity, with cicatrized bands, slight shortening of the limb, limited movement and pronounced limping. The neighboring skin was the seat of numerous cicatrices, some small, others large, evidently the sequelae of peri-articular abscesses or cutaneous ulcerations, probably of specific origin.

The next day his family physician who had treated him in infancy wrote Fournier that the mother, while pregnant, had been infected with syphilis by the father, and that the patient had various syphilitic phenomena soon after birth. When two years old his left knee had a chronic inflammation, which had only been cured after a long course of potassium iodide. Finally, his wet nurse became infected.

Testicles.

The following changes are observed in the testicles: (a) Sclerotic atrophy following infantile sarcocele; smallness (pigeon's egg, hazel-nut); hardness; fibroid, board-like, cartilaginous; modifications in form; irregularities, nodosities, tuberosities. (b) Infantile testicle; testes not deformed, not hard, small rudimentary.

The Kidneys.

Recent researches, particularly the studies of Hecker, would seem to indicate that nephritis occurs more commonly in the late congenital syphilis than had been previously supposed.

The Liver and Spleen.

Chronic enlargement of these organs has been repeatedly observed. It begins without pain and without disturbance of function. The patients with these lesions present a cachectic appearance, and this cachexia is usually associated with symptoms occurring in late hereditary syphilis. The enlarged organs are usually hard to the touch. In the liver, nodules of various sizes or ridges may be felt on palpation. Those changes are usually observed in older children, seldom before the fifth year, usually most often at the age of puberty.

The condition may continue unchanged for years, or it may lead to ascites and icterus, and in this way terminate fatally.

Nervous System.

Cases of organic disease of the nervous system in late hereditary syphilis are multiplying in the literature. Persistent headache, with nocturnal exacerbations, have been described by Fournier. Cases of meningitis and endarteritis, as well as infantile tabes and progressive paralysis are being observed and reported with increasing frequency.

Cerebral gummata are exceedingly uncommon. Of 299 cases of cerebral tumors under nineteen years of age, collected by M. A. Starr, there was but one case, and that in a youth of eighteen.

Epilepsy and idiocy as manifestations of late congenital syphilis have been described, but there is great difference of opinion about this point. There are however, a few well authenticated cases of epilepsy and idiocy resulting from late hereditary syphilis.

Many of the pronounced cases present a condition of late syphilis infantilism. Those who are in their twentieth or twenty-fifth year make the impression of children who are ten or twelve. They are dwarfish; bones and muscles are poorly developed. The genitalia are small and undeveloped, and there is absence of pubic hair. Puberty occurs late; menstruation and growth of the breasts is delayed; the uterus and its appendages are small.

Anemia is usually present, and the skin has a sallow appearance.

Mental deficiency, more or less marked, is present in most of the cases.

The paper by Dr. Patrick on **Syphilis of the Nervous System** has not been furnished.

Treatment of the Late Manisfestations of Syphilis.

James Nevins Hyde: Mr. President and Gentlemen of the Society. In the brief time which within these limits it is proper to devote to the subject under consideration, it is quite impossible to do justice to the part assigned to me. One might well hesitate to attempt the task, in view of the enormous mass of literature which has been contributed to the theme by some of the clearest thinkers and most carefully trained observers. Further, it will, I think, be conceded that on most of the points to which reference might here properly be made, the men of our profession are in general agreement. I shall

therefore merely attempt to enunciate a few propositions which, whether accepted or not, may serve to test our doctrines respecting the important subject of the treatment of what has been termed the "late manifestations of syphilis."

The word "late" is employed by English speaking people in several senses. In a first, it is used to designate an event or action occurring after a usual or proper time. In this most common sense a "late arrival" is one which is tardy—one occurring at a date or hour after that anticipated. In a second sense, less commonly intended, "lateness" refers to an event which occurs toward the end or close of a period or career. There are other senses in which the word is employed that need not here be discussed.

In accordance with neither of the two chief usages referred to, can any of the phenomena of syphilis be strictly catalogued as "late." The dominance of the mind by the time-schedule of French authors in their conception of the disease is overcome with difficulty. In syphilis there is, strictly speaking, no early and no late; no precocity, no tardiness. In its career, though that which is "early" is rarely late, that which is "late" is often early. The gravest sequences of syphilis may occur within a few weeks or months after the date of infection. The problem is not one of those where time is of the essence. The problem is one in which the chief element studied by the careful observer concerns the character of the soil on which the seed has been implanted, or, in the language of the laboratory, the culture-medium on which the germ is inoculated. From the pathological point of view, the element of time is of minor importance. It is admitted, however, that months or years may elapse before these grave sequences develop. Whether, however, speedily or after a longer or shorter interval declared, what are the manifestations? These should be at least named before the question of treatment arises.

Loosely speaking, they may be separated into two tolerably distinct categories: first, the morbid symptoms for which gummatous products are responsible, including the lesions of the nervous centers, the bones, the viscera, the testes, the uterus and its appendages, the skin, the eyes and the ears. Second, a somewhat indefinitely defined group of manifestations to which Fournier has given the name "parasyphilitic affections." These for the most part are not recognized as belonging strictly to what may be termed gummatous syphilis. Aside from one cutaneous affection, namely, the pigmentary syphiloderm, it is sought to include in this special list; for acquired syphilis: hystero-neurasthenia in its multiform manifestations, tabes, general paralysis, a special form of epilepsy, and another of muscular atrophy. Of the eight items catalogued, it will be perceived that no less than six are related to affections of the nervous system. In hereditary syphilis, the list is larger, including a series of dystrophic disorders; malformations, dental and other; of arrests of mental and physical development; infantilism; cachexia; rickets, hydrocephalus; and the forms of epilepsy, meningitis, tabes, and general paralysis recognized in juvenile cases.

The necessity of reference to these two groups is emphasized by the striking fact that the chief basis for the establishment of the "parasyphilitic" class by the distinguished French syphilographer, is their assumed failure of amenability to antisyphilitic treatment. It is a basis which it seems to me cannot be successfully established. Viewing comprehensively these two groups of manifestations as sequences of syphilis, the following propositions may be enunciated with respect to their treatment:

1. The best clinicians of today direct their treatment less to the disease than to the patient. Syphilis here aligns itself with almost all the other general infections. There is no fixed and accepted method of treatment for any of the symptoms of variola, tuberculosis, or pernicious anaemia. The best treatment of the grave sequences of syphilitic infection is that specially indicated by the conditions recognized in each individual case, fully realizing that while the categories of scientific symptoms have been faithfully compiled, no two cases are exactly similar.

2. There are patients in whom treatment is either of little value or altogether valueless. It is singularly strange that it should ever be needful to direct attention to this point, a point from which after even a superficial examination of the subject, there should not be dissent. Persons are invaded by the toxines of yellow fever, plague, and cholera, in whose cases human skill is without avail. Syphilis in its extreme phases stands with the other grave devastations of the human race. There are cases in all lists where, usually as a consequence of the physical condition of the sufferer, occasionally as the result of the brevity of time in which it is possible to exert skillful interference, the end is determined at the outset. In syphilis, unlike many other disorders, the issue is unfortunately, not always fatal to life. Syphilis is rarely a disease that kills. Its worst issues are ruin, damage to all that makes the body a comfortable tenement and to much that makes life worth living, yet the wreckage of the body often continues to drift along unsubmerged.

3. Prophylaxis is the most potent of all the methods by which grave complications of syphilis may be averted. Persistent, skillful, and at times energetic medical treatment of the disease from the outset, is of high value; it is set down by most European and many American physicians as of the highest value. The drug treatment of the disease, however, is of secondary importance compared with the best hygienic management, including an enforcement of the methods of living which influence the physical condition of the patient in the direction of the largest measure of health. Careful study of scores of cases reveals in strong colors the startling fact, that a large number of sufferers from these manifestations of syphilis have brought the ruin upon themselves. This is so vast a subject that here it can barely be mentioned. Dissolute habits of living, excesses in the use of alcohol, tobacco, and the narcotico-stimulants, incessant brain-strain of the modern business man competing for the prizes of commercial supremacy, despondency, and the influx of other disorders which might have been set aside—these are tremendous factors in the pushing of lues toward its unhappy consequences. It

is significant that while women suffer from the symptoms here considered, from many of these complications, women are conspicuously exempt. The corollary is so obvious as to require no comment. The antecedent histories of women who actually do become victims of these grave manifestations of the disease, sharing the fate of their male companions, are singularly like those of the men who suffer in the same way.

4. The medicamentous treatment of the gummatous manifestations of syphilis still includes, as remedies of the highest value, the salts of mercury and of iodine, and iodine itself. In this day, however, the old dictum that mercury was chiefly available in the management of the superficial and symmetrical symptoms, and that iodine and its compounds were to be employed chiefly in gummatous and so-called "late" manifestations of the disease, has been practically relegated to the past. Mercury is of the highest value, not only in the one class but in the other. The relative advantages and disadvantages of the methods of its administration by inunction, fumigation, and deep injection, need not occupy space here, as these all are fully considered in the accepted works devoted to the subject. The neurologist has long since learned that when the iodine salts, pushed in the American method from the smaller to the largest doses in ample dilution, have failed, the patient has often been recalled from a semi-unconscious stupor due to an obliterating endarteritis or to meningeal thickening, by the administration of calomel in one-tenth of a grain and even one grain doses every hour until the desired result was obtained. As for the newer combinations of these valuable remedies, some have undoubted value; none has yet completely displaced the older, in the presence of an emergency. The "mixed" method of treatment may be regarded as an ingenious device of the chemist rather than as an energetic means in the hands of the skilled physician. The tannate of mercury is contesting a first place with the iodine and chlorides; iodipin, of undoubted value, is easily first before iodo-nucleoid and the lately devised soluble solutions of iodine; as well as hydriodic acid.

The management of the group of so-called "parasyphilitic" affections is detailed in most of the standard works on affections of the nervous system. Often, but not always, the compounds of mercury and of iodines are here found inefficient, but not more so than in many cases of unquestioned gummatous disease where persistent dilatation of one pupil, extensive involvement of the testis, gigantic ulceration of the skin, and even osteo-periostitis, refuse to yield to the same remedies. For the so-called parasyphilitic manifestations, the electrician, the masseur, and the physician who is competent to direct the patient in the matter of diet, exercise, and rest have all had their triumphs. Frenkel's treatment of tabetic ataxia based largely on the hypotonic condition of the muscles, and finding an explanation of its results in the theory that the disease is less of central origin than due to impaired sensibility at the periphery, appeals strongly to those who have vainly tried the older measures aimed at securing relief.

5. Lastly, attention should be directed to a class of cases, the treatment of which is widely different from that suggested above. Twenty years ago the laity scarcely knew the meaning of the word locomotor ataxia and were unfamiliar with its conspicuous symptoms. All this is now changed. The relative frequency of the disease, and its occurrence in persons of high official position or widely extended acquaintance, have to a degree educated the public in recognizing the more prominent symptoms of the group of disorders of which tabes may be regarded as an illustration. Their relation to syphilis is appreciated by well informed persons outside the pale of the profession. The advertiser in the daily press has taken advantage of what is thus more or less generally known to awaken a vague dread of these results in the mind of the average reader of the newspapers. As a consequence, a class of patients is brought to the attention of the expert, who simulate the phenomena of nervous syphilis with singular faithfulness. They are not of the old fashioned "syphilophobia" class, nor yet of the number of those whose imaginations are wholly responsible for their conditions. They are the victims of a past or present syphilis; and the deterioration of the tone of the system, short of inducing a distinct cachexia, has resulted in the production of symptoms largely due to impaired innervation which closely resemble the features of grave syphilis of the nervous system. The utmost skill of the expert is required in the unraveling of the truth in these cases; and, aside from the restorative measures demanded, the treatment involves a moral management which only the physician who is scientifically trained and who is sure of his facts, can duly enforce.

Discussion on the papers of Drs. Babcock, Abt, Patrick and Hyde.

G. W. Boot: In connection with Dr. Babcock's paper, I have a specimen of syphilis of the heart to present. The patient was a male infant, aged seven months, weighed about five pounds, but said to weigh ten pounds at birth. The child had coryza before death. Mother apparently healthy, and father declined a private interview. This child presented some signs of hereditary syphilis. The child showed radiating scars at the upper lip and at the angles of the mouth. There were various scars in other parts of the body. There were three small abscesses, one on the right shoulder, and two on the right forearm. The child was emaciated. Subcutaneous fat absent. Lower half of the upper lobe of the lung consolidated. In the right lung there were small areas of consolidation. There was considerable enlargement of the mesenteric glands, otherwise the post-mortem examination was negative. The specimen shows ulceration of the leaflets of the tricuspid valve, and just below this a perforation through the interventricular septum. In addition, there is a patent foramen ovale.

L. Harrison Mettler: There are one or two points I wish Dr. Patrick had brought out more clearly in speaking of the symptomatology of syphilis of the nervous system. He doubtless would have done so if time had permitted. How can we distinguish between those cases that are amenable to syphilitic treatment, and those in which we feel sure of our diagnosis, and yet find

that we get no response to antisyphilitic treatment? These two classes of cases give us much trouble in connection with syphilis of the central nervous system. I am not referring now of course, to the class of cases touched upon by Dr. Hyde, the true syphilitic, and the so-called parasyphilitic cases. Neurologists do not regard the latter as syphilitic, but as the remains of syphilis —dementia paralytica, tabes, etc. There is a class of cases however, that are actively syphilitic. In eliciting the history of such a case, we find manifestations of headache, insomnia, vertigo, choroiditis, or neuro-retinitis; and even though one uses vigorously the iodides, alternating with inunctions of mercury he does not get the results he expects. I have had several of these cases that have proved very puzzling. I have asked some of my professional friends about them, and they have told me that they are the cases in which histopathological changes have so taken place that they are beyond the reach of anti-syphilitic medication. I reported one such case at the last meeting of the Illinois State Medical Society. The man had intense pain passing around the head like a band. He had such marked photophobia that he sat before a number of gentlemen in my clinic with his hands over his eyes. He had peculiar sensations all about the body like a true paresthesia. He was a railroad conductor and admitted the possibility of having contracted syphilis. His first wife had aborted three times. His second wife's first child was stillborn. I do not know what the result of the second will be, as the woman has only been pregnant two or three months. On account of this trouble in the head and eyes he was treated for two years with large quantities of castor oil, without results, by one of the most careful ophthalmologists in this city. Two other gentlemen who saw the case with me differed diametrically in their opinions. It was thought by still another ophthalmologist that the man had had syphilitic choroiditis. I put him on the iodines, and gradually carried the dose up until he was able to tolerate as much as one thousand grains a day. Inunctions of mercury were also used. For a time the photophobia and pain disappeared, and he resumed work. There was no suggestion of hysteria. The prevailing diagnosis among the ophthalmologists was that the trouble was syphilitic; yet the man relapsed on this treatment, and we were obliged to admit that he was practically no better. I do not know what has become of the case. It was one of the most remarkable cases of that character that I have ever seen. I have seen several others, but not so pronounced as this one where I felt sure that the diagnosis was syphilis, and yet in whom I got absolutely no response from the use of the iodides or mercury.

It would be a splendid thing for us if we could tell by symptoms in some way in what cases it is worth while to continue the iodide treatment, and in what cases this treatment will prove useless.

I am not always clear as to what should be done in these cases. I feel however that in cases where we have slight or mild secondary symptoms of syphilis with the involvement of the nervous system that the iodides help us. In cases with intense headache, and where the ocular trouble is distinct, the iodides are always borne well, and in such I have obtained excellent results by continuing the treatment. If I give a patient fifty, sixty or a hundred grains of iodide a day and then jump to three hundred grains a day and find that I do not overcome the symptoms, I begin to think that I have a case in which well-known histo-pathological changes have taken place. It would be of great value in all cases of syphilis of the central nervous system to know symptomatically exactly in what cases we may expect the iodides to be of benefit, and in what cases we may expect no results whatever.

Henry G. Anthony: In the discussion of Dr. Babcock's paper, I desire to call attention to the fact that a few recent writers are asserting that acute malignant endocarditis sometimes develops in the early history of syphilis. One of these writers has seen several such cases. He has gone over the literature at his command in an effort to find similar cases reported, and among other authorities he has consulted Dr. Babcock's recent work, which he says conveys no information whatsoever on the subject. He has therefore discovered a new phase of cardiac syphilis.

It is my opinion that these cases are not cases of syphilitic infection, but they are due to gonorrheal infection accompanying the syphilitic infection. My opinion is strengthened by the fact that none of these writers mention the gonococcus as a possible cause of such acute malignant endocarditis. There is no statement made as to whether the patient has or has not a discharge. No statement is made in regard to a search for gonorrheal shreds in the urine, nor is there any statement made as to whether the patient had symptoms which might be due to gonorrhoeal rheumatism. In a word, it is plain that the author did not have the gonococcus in mind.

I have recently had called to my attention the following case: A physician of my acquaintance told me a few weeks ago that he had in his practice a case which he thought would be interesting to me. A patient came to him with a chancre, and following it the secondary eruption of syphilis appeared. While the secondary eruption was still present, suddenly acute endocarditis developed. It was accompanied by symptoms of sepsis; coated tongue; elevation of temperature; night sweats, and rapid pulse. The physician wanted to know in regard to the literature on that subject. I asked him if the patient had a urethral discharge. He replied yes, when he first came in, but he paid little attention to it and he did not know whether he had a urethral discharge or not at the time he was conversing with me.

On inquiring in regard to gonorrheal rheumatism, it was ascertained that the patient at that time had a swollen joint. I told the physician that he should be careful to look for the gonococcus; and, furthermore, to give a very guarded prognosis. Two days later, when I saw him and asked him about the patient, he said the patient died a few hours after our conversation.

Another point in connection with Dr. Babcock's paper is this, a condition which I do not

think the average practitioner will diagnose unless his attention has been directed to it, and that is, a gumma developing in the wall of a blood vessel. A patient who suddenly presents edema of an extremity, an arm, or forearm, will manifest no severe symptoms. His general condition will be good. But on examining the patient, in the axillary space or in some other location we will find a tumor varying in size in different cases. In the central portion of the tumor there is fluctuation. Tracing it to its origin, you can distinctly feel that it is attached to a vein, extending downward there is thrombosis of the vein. Of course, in the manipulation of such a tumor one should be careful not to detach the thrombus. In these cases there is no fever, no symptoms of phlegmonous inflammation, and the patient does not suffer pain. When such patients come under observation they should be kept quiet, because their movements will easily detach a coagulum and produce embolus. Furthermore, they should be kept in bed long after syphilitic treatment has accomplished its object.

One other point in connection with Dr. Babcock's paper as to aneurysm. Efforts have been made to ascertain if it were possible to diagnose aneurysm due to syphilis from aneurysm which is not due to that disease. So far as the literature of that subject is familiar to me, in addition to the point of age, which Dr. Babcock brought out, it has been said that multiple aneurysms are usually of syphilitic origin. Furthermore, a syphilitic aneurysm is far more apt to develop on the posterior wall of a blood vessel than is an aneurysm due to other causes.

Of how much importance these points are, is a matter of question, but they should at least be studied.

In regard to syphilis hereditaria tarda, the impression is often conveyed that the late development of syphilis is characteristic of that form of disease and not of other forms. Such is not the case. Every form of syphilis is apt to show a long period of latency, and syphilis hereditaria tarda does not vary from acquired syphilis or from any other form in lateness, but in the character of the lesions present, in which dermatologists have endeavored to make a distinction. Fournier reported a case of acquired syphilis in a patient in whom a period of forty years elapsed from the first manifestations of the disease until the subsequent symptoms were developed. Every practitioner has undoubtedly seen from ten to twenty years elapse without having his attention called to the disease. There is no reason why congenital syphilis should not at times follow the general law of syphilis and show a long period of latency.

Cases of syphilis hereditaria tarda may be divided into three classes. First, those cases in which the lesion present in every way resembles the lesion of ordinary acquired syphilis. Second, those in which some of the lesions of ordinary acquired syphilis are present and the other lesions are special. Third, those cases in which all of the symptoms are of a special variety, and these cannot be distinguished from scrofula, according to Kaposi. As I have understood Kaposi, he does not mean to say that a long period of latency cannot occur in congenital syphilis, but what he says is this: We cannot accept as cases of congenital syphilis those various cases reported where the evidence is so meagre, and which were not absolutely characteristic of the disease, such as Hutchinson's teeth, and various symptoms of that kind.

In this connection I desire to call attention to a case that I have under observation at the present time. Twenty years ago a man acquired syphilis. He married while he had the roseola present, and immediately infected his wife. A child was born three years after this infection. Eleven years ago I examined the family, the father had unmistakable evidences of syphilis. The mother presented the ordinary symptoms of the disease; but the child, after being examined repeatedly, shows absolutely no evidence of the disease. Within the last three weeks the mother brought her daughter to me again, she is now 17 years old, and I find she presents a circinate ulcerating tubercular syphilide, situated on the anterior surface of the chest. There is nothing in the history of the case which would in any way suggest possible extragenital infection. There is nothing in the case which would suggest genital infection. Born of a syphilitic mother, who was known to be syphilitic at the time of conception, there is every reason to suppose that it is a case of hereditary syphilis in which no appreciable evidence of the disease was present up to the seventeenth year of her life.

Julius Grinker: I wish to report a case in connection with the subject of early brain syphilis. A young man contracted the initial chancre two months previously, and barely had a slight roseola when he developed a transient paralysis of the third nerve. The facial was also involved, but yielded to the administration of potassium iodide and mercurial inunctions after two to three weeks treatment. What was it? Tertiary syphilis; otherwise I do not think the treatment would have been successful.

A fine point that Dr. Patrick also brought out was the explanation why the treatment of syphilis of the nervous system is inefficacious in a number of cases; that is, where endarteritis or periarteritis has gone on to the extent of obliterating the vessel, and then causing softening of that portion of the brain which is dependent upon this vessel for its life. In those cases we get a softening of the brain which is the same as softening from any other cause, such as senile arteritis, thrombosis, embolism, etc. When nerve tissue is completely destroyed, no medicines can regenerate it. In those cases also where a scar is left as the result of syphilitic disease, it is a question how to remove the scar. The scar is there and is going to be there, and here, too, we are unsuccessful in removing all of the symptoms.

In regard to the sommolence mentioned by Dr. Patrick, I recall an interesting case of cerebral syphilis in which the opposite of stupor, extreme agitation, was taking place. The patient was simply wild. He said later that he had had an irresistable desire to smash everybody and everything; and that was the ushering in symptom of an incomplete syphilitic hemiplegia, which yielded entirely to potassium iodide and mercury in massive doses. We are

apt to have all kinds of psychical disturbances in syphilis previous to the onset of paralysis, transient or permanent. Or, we may have psychical manifestations without any motor disturbances at all.

These psychical symptoms as well as the psychoses of syphilis and para-syphilis are probably produced by disease affecting the convexity rather than the base of the brain, while the different kinds of syphilitic paralyses are mostly caused by disease at the base and by interference with the blood supply of areas containing motor neurones.

Sanger Brown: I wish to express my gratitude to Dr. Hyde for the masterly way in which he has classified the different kinds of syphilis and for the broad lines of treatment laid down by him. I was gratified to learn from a man of his broad experience that there were cases of undoubted syphilis which were not amenable to the usual treatment, but which is so successful in many cases. Dr. Mettler has mentioned a case of that kind, and it was reassuring to me to know that I had not been treating some of my cases of cerebral syphilis improperly.

L. Blake Baldwin: The thought struck me during the reading of the papers and in listening to the discussion that we would not see so many cases of late syphilis if more chancres were recognized by the general practitioner. Most of the bad cases I have seen in my practice were those that have been diagnosticated by general practitioners as chancroid.

Dr. Babcock (closing the discussion on his part): I desire to add a word or two in expressing my pleasure at hearing what Dr. Anthony had to say concerning acute endocarditis caused by syphilis. It is so contrary to all our notions of the manner in which syphilis produces its effect, that it is, to my mind, inconceivable, and recently, when in the South, I conversed with a writer on the subject, and became satisfied from inquiry that the cases so conceived by him and others, if syphilitic, have not been investigated as they should have been, and in my own mind I am satisfied that they were in all probability due to the gonococcus. They occur, and this is presumptive evidence, in the negro, in whom we know chronic gonorrhea is not at all uncommon.

Dr. Abt (closing the discussion on his part): It is to be regretted as Dr. Shalek has already said that cases of late hereditary syphilis with distinct symptoms of infantile syphilis are included in the same class as those cases where no infantile symptoms occurred. Syphilis hereditaria tarda should preferably be used to designate the latter class.

Nevertheless the classification that has been handed down to us from Fournier includes both variety of cases. I have adhered to his classification in my description of the disease.

Dr. Hyde (closing the discussion): I think one of the most valuable experiences I have ever had was on a Sunday morning in the year 1900, when Professor Fournier took us into his wards and showed us a group of cases of late inherited syphilis in young men and young women. He stated at that time that almost all of the patients shown, had one symptom which has not been referred to this evening, and that is incontinence of urine. He found this an exceedingly common symptom in the late forms of inherited syphilis.

Dr. Patrick (closing the discussion on his part): I do not care to say anything more in regard to my own phase of the subject, but I would like to supplement Dr. Hyde's paper with a few words, as the result of my own personal experience. It happened to me a few times to have seen cases of cerebral syphilis or spinal cord syphilis which had developed during the course of treatment, and what I get up for is to deliberately, forcibly and emphatically damn the ordinary way of treating syphilis by giving one or two, three or four, little pink pills of protoiodide of mercury. This treatment may be all right for many cases of syphilis, but for some cases of the disease it is inappropriate. As Dr. Hyde has said, there are some cases of syphilis that are absolutely not amenable to mercury and iodides. There are still others that are hardly amenable, and no one can tell in the beginning of treatment which are going to be the refractory cases and those which are not. It is a matter of experience. We have got to find out. While one is finding this out, the patient is liable to have severe syphilis. When I saw a promising young fellow lying on a bed absolutely and totally paraplegic, with involvement of the sphincters of the rectum and bladder, from spinal cord syphilis which had developed while he was being treated for syphilis, it made me think a good while. This is only one example.

I would like to repeat what I have said on previous occasions, that he who treats syphilis should treat it hard, and very hard. My own opinion is that in the vast majority of cases we cannot treat syphilis hard by giving little pills by the mouth, because they upset the stomach and bowels before the patient is mercurialized. Next to the stomach and bowels are the mouth symptoms. These are sometimes bad. They can be abolished or obviated by proper care of the mouth. I venture to say, from cases I have seen in consultation, that not one patient in ten has the mouth properly cared for. They are furnished with a little chloride of potash water and told to rinse the mouth out. What is needed is a good strong antiseptic, with which the patient can scour his teeth and gums. Massage of the gums should be resorted to. It has occurred to me time and again, when I have recommended inunctions of mercury to hear the doctor say, "How much would you give?" I say, give a dram twice a day, and rub it in well. The doctor would say, "Great Heavens, it will salivate the patient." It does not salivate the patient if the mouth is properly cared for. We know so little about syphilis, how it is cured, and how much mercury it takes to kill it, and so little of how much mercury is taken up by the system, and how much more one person will take than another, whether the mercury be given by injections or in the form of inunctions, that God only knows what is taken up in the circulation except by the effect, and the effect must not be on the mouth, nor on the bowel, but on the syphilis, and, therefore, we should endeavor to minimize

or remove the possibility of the effect being spent on the mouth or on the intestinal tract.

1. Late Superficial Residua of Syphilis Such as Aid in the Diagnosis, W. L. Baum. The paper by Dr. Baum has not been received.

4. Syphilis of the Nervous System, H. T. Patrick. The paper by Dr. Patrick has not been received.

Council Meeting.

At the meeting of the Council, held Oct. 12, 1903, W. L. Baum, F. S. Johnson and D. J. Doherty were elected Trustees of the Chicago Medical Society.

The following delegates and alternates were elected for two years to represent the Society at the meeting of the Illinois State Medical Society: Delegates—W. L. Ballenger, M. Herzog, E. Ochsner, J. M. Dodson, A. C. Cotton, W. R. Livingston, J. C. Webster. Alternates—E. McEwen, L. L. Gregory, G. P. Marquis, M. H. Luken, J. S. Hunt, C. F. Swan, C. Davison.

Wm. Harsha, J. B. Herrick and A. Gehrmann were elected the Membership Committee, and W. A. Evans, H. N. Moyer and C. S. Bacon the Medicolegal Committee.

Proposed Change of By-Laws.

The following recommendations for a change in the by-law relating to the time limit of papers read before the Society was presented by F. S. Churchill, and will be considered at the meeting of the Council, November 11, 1903:

"The time limit of papers shall be 20 minutes, except as provided for as follows:

"An author wishing more time for his paper shall send said paper to the President of the Society at least one week before the stated meeting. The President shall submit the paper, without the author's name, to a secret committee of three members of the Society, named by the President, who shall report to the President the length of time to be allowed the reader."

It not infrequently happens that valuable papers are cut short or skimmed through with important omissions, to the disappointment of the audience and much to the annoyance of the reader, who may have spent much valuable time and thought in preparation of his paper. My own personal opinion is that few papers worth hearing can be read in twenty minutes, except clinical cases. I think that the above change in the by-law would conduce to more carefully prepared and more exhaustive papers, and it is, of course, the object of the Society to encourage a high standard of work on the part of the members.

Exhibition of Pathologic Specimens.

President Preble is endeavoring to have more pathological specimens presented to the Society. In a recent bulletin he says:

The work of the Chicago Medical Society for the coming year may be divided into classes, the scientific work and the work of organization. There is a difference of opinion as to the relative importance of these two kinds of work, but there can be no difference as to the fact that both are important and that neither should be sacrificed to the other. It is also manifest that while the bulk of the work of organization must be done by the members themselves, the Society should have the benefit of the best work of all its members. There should be no one of us who finds fault with the character of the work done, and yet does nothing himself. He alone has the right to criticise who does the best he can. The scientific programs ought not to be a burden on the officers, and the officers look confidently to the members for hearty assistance and support.

It seems desirable that a certain amount of time should be spent on the study of pathologic specimens, both gross and microscopic, and all men who are making autopsies, and particularly those who are making the autopsies at the County Hospital, are invited and urged to bring before the Society specimens of all sorts. It should be remembered that this body is one of practitioners with all sorts of interests, so that specimens of all kinds of conditions will be of interest. It should further be remembered that the great majority of the members have only too infrequent opportunities to see pathologic specimens, and that, therefore, a specimen which would have but an everyday interest to a pathologist will have great interest to a practitioner. Let us see the daily run of specimens as well as the unusual. There should be sufficient pathologic material in this country to have a fifteen or twenty minute exhibition of pathologic specimens every meeting, and I am convinced that there is nothing which could with greater profit be a regular part of the program.

Let us see the pneumonia, the typhoid ulcer, the endocarditis, the myocarditis, as well as the ependymal cysts of the cerebellum.

In talking this matter over with one of the pathologists he objected to showing the common run of pathologic conditions because there would be nothing new about them, and he would be an object of ridicule to other men in the same line. This is an unfortunate attitude and one which should not exist. Such demonstrations would not be of interest to a man constantly handling postmortem material, but I am sure that any pathologist in town would be glad of an opportunity to see a good example of typhoid ulcer if he had not seen one for two years. That is the position of the general practitioner in this matter. He has not seen these things, maybe, for years, and he will be very glad, indeed, to have the chance, and it is up to the pathologists to give him that opportunity.

Southern District.

The Southern District held its annual meeting Tuesday evening, Sept. 29, 1903, and elected officers for the coming year as follows: President, E. B. Hutchinson; vice president, Paul Chester; secretary, W. S. Harpole; treasurer, C. P. Pinckard; delegate to council of the Chicago Medical Society, Wm. Cuthbertson. W. S. Harpole.

Evanston Branch.

The annual meeting of the Evanston Branch was held September 29, 1903, at 8:30 p. m., in

the Woman's Club Rooms of the Y. M. C. A. building.

Fernand Henrotin addressed the meeting on the topic, "Pelvic Suppuration in Women."

The following officers were elected for the ensuing year: Chairman, W. R. Parkes; clerk, Mary G. McEwen; councilor, S. Victor Balderston.

There was a large attendance and the work of the new year was taken up with enthusiasm.

Mary G. McEwen, Clerk.

Lawndale Branch.

A meeting of the Lawndale branch of the Chicago Medical Society was held at the office of Robert Hardie, 1567 Ogden avenue, Oct. 13, 1903, at 9 o'clock, p. m.

Officers were elected for the ensuing year, and a paper was read by James B. Herrick on the subject "Modern Views Concerning Typhoid Fever."

By reason of the extent of territory included in the Lawndale branch, and the lack of an appropriate meeting place, it has been very difficult to organize this section, but through the kindness of Dr. Hardie the society now has a very convenient and comfortable place of meeting and every member of the general society is urgently requested to attend this and other meetings and thereby help to place this branch society on an equal plane of excellence with those reached by the Ogden avenue cars and transfers from any of the cross lines.

Fred C. Honnold, Secretary.

Chicago Medical Examiners' Association.

The meeting of the Chicago Medical Examiners' Association was held in the hall of the Chicago Medical Society, Schiller Building, on Tuesday evening, Oct. 27, 1903, at 8:15 o'clock.

Program.

1. What Points Can a Life Insurance Examiner Derive from an Ophthalmic Examination? G. F. Suker.
2. Glycosuria in Life Insurance, A. C. Croftan.
3. Relation of Tubercular Glands of Neck to Life Insurance, Daniel N. Eisendrath.

All medical examiners and others interested in life insurance are cordially invited.

Walter A. Jaquith, Secretary.

Southwestern Medical Society.

On Tuesday evening, Oct. 13, 1903, was held the first meeting of the Southwestern Medical Society for the new year, the September meeting having been devoted to the election of officers and transaction of business. About 40 were present at this meeting, and the interested and enthusiasm shown on this, the opening night of the year, promises well for the future.

The paper of the evening, "Common Errors in the Diagnosis of Skin Diseases," by Prof. Joseph Zeisler, was one of the most interesting and helpful papers to which the Society has listened for a long time.

The program committee, appointed in September, reported the following program for the ensuing year and printed copies were distributed:

Program, 1903-04.

October 13. Common Errors in the Diagnosis of Skin Diseases. Prof. Joseph Zeisler. Discussion opened by C. Hubart Lovewell.

November 3. Therapeutic Resourcefulness vs. Nihilism, Chas. H. Miller. Discussion opened by H. D. Roehler.

December 1. Fractures and Dislocations, C. H. Lovewell, Sr. Discussion opened by A. Davis.

January 5. Annual banquet.

February 2. Clinical meeting. Stereopticon Exhibitions.

March 1. Acute Respiratory Affections: 1. Nose and Throat, F. C. Eggert. Discussion opened by R. E. Ransmeier. 2. Chest, E. B. Fowler. Discussion opened by A. E. Mowry.

April 5. Diagnosis and Treatment of Malpresentations, F. L. Rose. Discussion opened by C. J. Phillips.

May 3. Differential Diagnosis of Severe and Trivial Eye Affections, F. T. Avery. Discussion opened by J. C. Millman.

June 7. Diagnosis of Acute Surgical Abdominal Affections, M. L. Harris. Discussion opened by J. J. Moorehead.

July 5. Acute Gastro-Intestinal Affections of Childhood, M. D. MacHab. Discussion opened by A. P. Horwitz.

August 2. Gynecologic Diagnosis, C. F. Weir.

September 6. Election of officers.

The Southwestern Medical Society of Chicago held its regular annual meeting for the election of officers, Tuesday evening, September 1. The following officers were elected:

President, T. C. McGonagle; vice president, H. H. Hagey; secretary and treasurer, C. Hubart Lovewell; delegate, F. R. Green; steward, A. Bell; official reporter, F. L. Rose. Committees on membership, program and organization were appointed by the new president.

On Tuesday evening, October 13, was held the first meeting of the new year for the reading and discussion of scientific papers and Prof. Joseph Zeisler read a most interesting and instructive one on **Common Errors in the Diagnosis of Skin Diseases.** In his opening remarks the reader stated that though the subject and title had been chosen for him by the committee on program it was almost identical with that of a paper which he read twelve years ago before the Chicago Medical Society and that he was gratified to be able to state that in his experience glaring errors in the diagnosis of this class of cases by the general practitioner were becoming rarer each year. A large portion of the paper was devoted to syphilis and illustrated by references to recent cases in his own practice.

The program committee reported the following program for the ensuing year as the result of their work and printed copies were distributed to members present. After a full discussion of Prof. Zeisler's paper the Society adjourned.

F. L. Rose,
Official Reporter.

The Southern District of the Cook County Medical Society (Chicago Medical Society) held its annual meeting, Tuesday evening, September 29, 1903. The meeting was held at

the Vendome Hotel, 62d street and Monroe avenue. Forty members were present.

Officers for the ensuing year were elected as follows: President, E. B. Hutchinson; Vice President, Paul Chester; Secretary, W. S. Harpole; Treasurer, C. P. Pinckard; Delegate to Council Cook County Society, Wm. Cuthbertson.

After the induction of the newly elected president, a paper was read by Chas. E. Paddock on **Obstetrical Emergencies.**

The regular monthly meeting will be held October 15, 1903, at the same place.

W. S. Harpole,
Official Reporter.

Chicago Pediatric Society. The first regular meeting of the Chicago Pediatric Society for the year, was held in Schiller Hall on the evening of October 20th. In response to an invitation from the Executive Committee, Dr. Hugh T. Patrick gave a very interesting talk on the subject of **Nervous Children.** Questions were asked and the subject discussed, many points of interest being brought out. A vote of thanks was accorded the speaker after which the meeting adjourned.

Emma M. Moore,
Official Reporter.

The Chicago Surgical Society held its annual meeting October 19, 1903. The following officers were elected for the ensuing year: President, Dr. E. Wyllys Andrews; vice president, Malcolm L. Harris; secretary, A. E. Halstead; treasurer, D. N. Eisendrath.

A. E. Halstead,
Official Reporter.

The North Side Branch of the Chicago Medical Society held its regular monthly meeting, Thursday evening October 8th at 8:30 p. m., at the Chicago Academy of Sciences. The following were elected officers for the ensuing year: Henry G. Anthony, president; D. Lieberthal, vice president; Mortimer Frank, secretary and treasurer and W. S. Christopher, delegate from the North Side Branch. The program of the evening was **Bowel Manifestations of the Infectious Diseases of Children** was opened by Dr. Christopher and discussed by Drs. Churchill, Walker and Kunz. After meeting adjourned the members were served lunch at a nearby hostelry.

Mortimer Frank,
Official Reporter.

The North Shore Branch held its first meeting after the summer vacation, Tuesday evening October 6, 1903, at Hipple & Clarks Real Estate office, 907 Wilson ave. The meeting was called to order by Chairman Herzog. The minutes of the last meeting were read and approved. Dr. R. B. Preble, President of the Chicago Medical Society addressed the society on the subject of **Some Unusual Pneumococcus Infections.** Dr. Herzog led the discussion and was followed by Drs. Green, Emil Beck, McClannahan, Kreusser and Preble.

Announcement was made that the subject of **Blood in Diseases** would be studied during the winter. Some phase of this subject is to be presented at each meeting, the balance of the program for each to be made up of contributions of choice by the members. The meeting was unusually well attended and the interest manifested foretells a series of successful and profitable meetings for the coming winter.

George Edwin Baxter,
Official Reporter.

The Southern District of the Chicago Medical Society held its regular monthly meeting on October 15th. Thirty-one members were present and a profitable evening was had. The papers were:

Ophthalmias of the new born, Geo. F. Suker.
Experimental and clinical studies in the treatment of Diabetes, Alfred C. Crofton.

The November meeting will be held at the Vendome Hotel, 62d street and Monroe avenue, Thursday evening, November 19, at 9 p. m.

The papers to be read are:

The prevention of Tetanus, D. N. Eisendrath.
The elimination of Cellular Toxines by Inorganic Salt Solution, S. A. Matthews.

W. S. Harpole,
Official Reporter.

The Chicago Gynecological Society elected the following officers October 16th: Emil Ries, president; J. B. De Lee, first vice president; Frank T. Andrews, second vice president; Palmer Findley, secretary; Rudolph W. Holmes, editor; Charles B. Reed, treasurer; Gustav Kolischer, pathologist. The following is the program for November 20th:

1. Exhibition of Specimens.
2. Exhibition of Instruments.
3. Report of Cases.
4. Salpingitis, by Frank T. Andrews.
5. Modified Porro Operation with report of third case, by Carl Wagner, by invitation.
6. Etiology of Ischuria in Retroflexio-version of the Gravid Uterus, by Charles B. Reed.

Palmer Findley,
Official Reporter.

The Northwest Branch of the Chicago Medical Society held a regular monthly meeting on Friday, Oct. 2, 1903, at 8:30 p. m., at its usual meeting place, with President M. H. Luken in the chair.

The following papers, each of which was followed by a general discussion, were read:

Headaches and Their Treatment.

Julius Grinker read a paper on this subject before a recent meeting of the Northwestern Branch of the Chicago Medical Society. Headache in most instances is only a symptom; in some it is the most conspicuous symptom, while in still other cases it is the only symptom and may assume the dignity of a distinct disorder by itself. Factors entering into its production are: Organic diseases of the brain or its membranes; circulatory disturbances, such as anemia and hyperemia, arteriosclerosis, toxicity, infections, etc. Irritation of the sensory nerve-filaments of the dura by pressure or inflammation is probably the direct cause of most headaches. In the diagnosis of headaches attention should be paid to the mode of onset, duration, intensity,

and localization; each of these qualities is to be given due weight only in connection with accompanying symptoms. Cerebral organic headaches are usually very intense, circumscribed and constant, with or without remissions. They are described as cutting, boring or tearing; they may be dull and constant. Headaches caused by syphilis are worse at night or come on only towards evening. The nearer the lesion is situated to the cortex, the more intense is the pain and the more likely is percussion to elicit tenderness. The location of pain does not always correspond to the seat of the lesion. The eye fundi, the circulatory apparatus and the secretions will often furnish corroborative evidence, and enable one to make a correct diagnosis. Headaches due to circulatory disturbances in the brain cavity are divided into those caused by: (a) active hyperemia, (b) passive congestion, (c) enema, (d) arterial changes. (1) The headache of active hyperemia is perceived as a fulness in the head, with throbbing of arteries, injected conjunctivae, flushed face. The headache is either diffuse or confined to the vertex; and is made worse by stooping or lowering of the head. (2) The headaches of passive congestion are not frequent. Causes are all conditions which interfere with the return circulation, viz., heart diseases, tumors pressing upon veins, tight clothing about the neck. (3)Anemic headaches are often vertical in location, and are usually described as a hot, burning pain. They are relieved by the recumbent postures. (4) Arterial changes produce headache, either mechanically or by the anemia due to narrowing of lumen. The neuroses, hystēria, epilepsy, neurasthenia, etc., offer quite a contingent of all headaches. The hysterical headache is often described as though a nail were being driven into the top of the head; is called clavus hystericus and is similar to the syphilitic headache, except that the latter is worse at night, and the former is often improved by diverting the patient's attention. A careful search will reveal some of the so-called stigma of hysteria. The epileptic headache usually comes on after the fit; is of the dull type, and sleep often terminates it. If the patient is forced to keep awake after a spasm, a postepileptic psychosis may develop. Headache may precede or may be the equivalent of a fit. The patients affected with epilepsy can mostly be recognized by their dull, listless appearance, the dilated pupils and sluggish mentality. Neurasthenic headaches are common and should offer no difficulty in diagnosis. These patients describe their headaches as paresthesias rather than pains. Many say they feel as though a tight band was constricting their heads or their skullcap is being lifted away from their heads, or there is a feeling of emptiness or fulness in the head. Most often they speak of a "misery" in the head, but no headache. The reflex headaches, the so-called "eye" and "uterine" headaches are in many instances only ordinary myalgic affections of the temporal and occipitofrontalis muscles. However, there are some genuine reflex headaches caused by disease in the accessory cavities of the head. The pneumogastric nerve, with its extensive distribution, may be held responsible for the headaches due to disturbances in the thoracic and abdominal cavities.

Toxemic Headaches.

Under this heading are included headaches due to the infections and poisons, both organic and inorganic. To mention a few: typhoid, scarlet fever, smallpox, malaria, prodromal stage of syphilis, alcohol, nitroglycerin, quinine, opium, cocaine, copper sulphate, chloroform, ether, lead, tea, coffee, tobacco. The headaches due to defective elimination of waste products may also conveniently be placed here: uremic headaches, gouty, lithemic, rheumatic, gastrohepatic derangements, constipation headaches. All the toxic headaches have this in common, that they are usually of a dull, heavy type, are most often frontal; are apt to be worse in the morning and pass away in the course of the day. The headache of migraine begins in childhood or early youth; heredity can be traced in the majority of instances. It occurs at intervals and lasts from a few hours to a day. Vertigo, nausea, or vomiting may either accompany or wind up the attack, during which there is hypersensitiveness to light, heat, and noises. The headache may be unilateral throughout, or may extend from one side of the head to the other. The so-called aurae, such as zigzag lightning, scotomas, temporary hemianopsia, or aural manifestations may precede the attack. In its entire make-up, the migrainous headache may be considered the sensory equivalent of the cortical or subcortical motor explosion called epilepsy. There is one class of headaches for which no cause is usually ascertainable. These are the so-called nervous headaches, also called idiopathic. They are the expression of a general nervous constitution, exist from early childhood, and appear to be inherited. This headache is chronic in type. It may last months, or years, and may even accompany the individual through life. It may occur in paroxysms or be constant. Trivial causes, such as a slight indiscretion in diet, will bring them on, or they appear without any cause. The pain is variously described: boring, pressing, tearing; it may be a dull pressure, or very intense, with hyperesthesia of the scalp. Women are more predisposed than men; they suffer in their general health, become irritable and melancholic, and may become disabled from following a vocation. Altogether, it has a tendency to sour their dispositions. The treatment of a headache must be directed toward eliminating its causes. In anemia, iron, arsenic, bitter tonics, and rest in bed are urgently indicated. In the headaches due to gastro-intestinal disturbances, antifermentatives and intestinal antiseptics are demanded. A brisk calomel purge has relieved many a headache due to constipation. In "reflex" headaches, the organs at fault should receive proper attention, and often the aid of specialists will have to be called in. Neurasthenic headaches are treated along the lines of the treatment for neurasthenia. A good dose of bromides has often done good. Hysteria requires its own treatment. The subjects of hysterical headaches being dominated by autosuggestions will tax the physician's skill to the utmost. Indirect

suggestion and a frequent change from one remedial agent to another, beginning with the mildest and holding the most powerful psychic agents in reserve, are often successful. The headaches of arteriosclerosis are treated with nitroglycerin and small doses of the iodides. One point in the treatment of all varieties of headache is to give the patient immediate relief and such can usually be secured by the administration of the coal-tar products, such as antipyrin, phenacetin, and others of this class. The heart should always be guarded in the administration of the depressant remedies; or else we may cure the headache but lose the patient.

There is no specific for the headache of migraine. It either disappears or becomes less frequent and milder at the menopause in women and in men at the age of sexual involution. During the attack, the coal-tar remedies, such as phenacetin, antipyrin, acetanilid, may mitigate the pain. It is very bad practice to resort to morphine except in the most aggravated cases. As a rule, patients prefer to be left alone in a darkened room with exclusion of all noises; no food is taken until the attack has passed off. Between the attacks a reliable fluid extract of cannibas indica may be used in ascending doses, beginning with 2 to 3 drops three times daily until a dose just short of poisoning symptoms has been taken for a few weeks. This is the only thing that has been found beneficial in some cases, and therefore a trial appears to be indicated in a malady where so little can be done. For the so-called nervous headaches we must order regular exercise, fresh air, a simple diet, hydro-therapy local and general, local applications of menthol, ether, chloroform, massage of the scalp, is necessary. Regular stools and good sleep are essential. Galvanism cautiously applied to the head in the strength of 2 to 3 milliamperes has sometimes been effective. Of drugs, the most useful are: antipyrin, salipyrin, salophen, phenacetin, caffeine and the caffeine sodio-salicylate and bromides.

The Diagnosis of Extrauterine Pregnancy by M. H. Luken; **Headaches and their Treatment** by J. Grinker. The following motions, made by Louis J. Pritzker, were disposed of in the following manner: To appoint a committee of three to draft by-laws for this branch. Motion carried. Drs. Fowler, Wagner and Sandberg were thereupon appointed.

To apply for a legal state charter for this Society as a branch of the Chicago Medical Society. Motion carried.

To appoint an entertainment committee of three, who shall arrange a banquet and reception to be held sometime during the coming winter. The principal object of the above being to bring the members of our profession, residing in our district, more closely together in a friendly and social way in order to foster greater fraternity among them. Motion carried unanimously. Drs. Pritzker, Wagner and Grinker were appointed. Adjournment until Nov. 6, 1903, then took place.

Louis J. Pritzker,
Official Reporter.

The Physicians' Club of Chicago held a regular meeting Sept. 28, 1903, at the Sherman House. The meeting was called to order at eight o'clock, after the members and guests had partaken of a bounteous and delicate repast. Dr. William T. Belfield acted as chairman of the evening. He made some happy introductory remarks, speaking facetiously of the doctor's propensity for philanthropy, shown by his gratuitous rendering of personal services, his investments in gold and silver mines, Mexican plantations, and get-rich-quick schemes of all kinds; and especially by the constant efforts of the medical profession to prevent disease, and thereby incidentally destroy its own support—like the man who sawed off the limb of a tree on which he was sitting. He referred to the epidemic of suicide among physicians in Berlin and London, due in large part to the improvement in the public health and consequent reduction of physicians' incomes.

Fortunately the veneral diseases show a rapid increase; but should some modern Jenner discover a successful vaccination against these, many physicians will have to take to the woods.

Hydrophobia is of minor moment from the commercial standpoint—especially as nearly all the cases go to Dr. Lagorio. The rest of us may therefore consistently discuss means for protecting the public and the dogs.

He related the story of his first and only hydrophobia case which came to him as an interne in the Cook County Hospital. He was summoned to see a case of a boy who had been bitten by a supposedly mad dog and who was being brought up on the slow moving elevator on a cot upon which, astride of the boy's body two corpulent policemen were valiantly sitting. When the elevator reached the floor the guardians of the peace alertly jumped up and left the case to the doctor. He cautiously turned the boy over (the patient had been held upon the bed with his face crowded into the pillow so that he would not bite the courageous coppers) and discovered that the patient had died from asphyxia.

Dr. Ludvig Hektoen, Professor of Pathology in Rush Medical College spoke on the question from the pathological standpoint.

He limited himself to a few dogmatic statements (laughter). We owe most of our knowledge of hydrophobia to the genius of Pasteur. Although hydrophobia may affect many different kinds of animals, we are chiefly concerned here as it occurs in dog and man. The incubation period in man is from 14-18 days to several months, and it is only during this period that specific therapy can be employed with hope of success. The first manifestations are pain in the wound; pain in the nerves leading from it, and then the general nervous symptoms. Hence the clinical evidences point to the seat of the disease being in the nervous system and this is corroborated by experimental and other evidence. There are no special changes elsewhere than in the nervous system.

The microscopic changes in the nervous system are slight, consisting of congestions and minute hemorrhages. Microscopically there are perivascular infiltrations and there is an interesting formation of cells about the neurocytes of the various ganglia in the central and sympathe-

tic systems. The ganglion cells themselves degenerate and the surrounding cells proliferate especially in the intervertebral ganglia. At first thought to be distinctive of hydrophobia these changes have been found in cases of Landry's paralysis and in syphilis but in neither apparently so marked as in hydrophobia. Thus the microscope tends to further the idea that the seat of the disease is in the nervous system. The virus itself is found in the nervous tissues, the cerebro-spinal fluid and in the saliva. It is not present in the blood. In dogs it may appear in the saliva a few days before the outbreak of symptoms. The virus also enters the body by way of the nerves. It travels slowly upwards in the nerves corresponding to the infected area. One may inoculate successfully at first from these distal nerves near the wound but not from higher points. The great supply of nerves to the face accounts for the observed fact that bites in the face are much more quickly followed by serious symptoms than those in other parts of body. We conclude, therefore, that the virus of hydrophobia has a special affinity for the nervous system.

The actual material cause of hydrophobia is at present unknown. Bacilli, yeasts, protozoa have been accused. Negri considers it to be certain bodies found in the brain of infected animals and which appear like protozoa, but the crucial test of successful isolation and inoculation has never been fulfilled. Pasteur thought that the virus might be beyond detection with the present powers of the microscope. The virus of hydrophobia has long been said not to be filterable through filters which let certain ultramicroscopic viruses through, but it has recently been reported that successful filtrations of hydrophobic virus have been accomplished. If these observations are confirmed it may prove that Pasteur was correct in his surmise.

One practical lesson to be drawn from these fragmentary considerations is that in suspected cases of fatal rabies in dog or man, microscopic examination of the intervetebral and other ganglia may establish the diagnosis, at least provisionally, pending the results of the inoculation of rabbits which as a rule cannot be known for 16 to 20 days or so.

Dr. Arthur Dean Bevan, Professor of Surgery in Rush Medical College spoke on the question from the prophylactic standpoint.

He said that, inasmuch as there had been fourteen deaths from hydrophobia in this city during the past year, it was a subject of more than passing interest in this community. Anyone who had ever seen the horrible features connected with death from the disease could never forget them and must always recall them with horror.

In considering the prophylaxis there were two heads. Firstly, the prophylactic treatment immediately after the bite has been inflicted. He recommended swabbing the widely opened wound with pure carbolic acid, leaving the drug applied for one minute and then flushing off with 80 or 90 per cent alcohol. First apply a Martin bandage to free the limb from blood and then thoroughly cleanse the wound. He compared this treatment with the well known successful treatment of tetanus which Prof. John E. Owens instituted at the World's Columbian Exposition, where not a case of lock-jaw developed in several hundred dirty punctured wounds of the feet.

Secondly, prophylaxis by governmental control and eradication of the disease in the dog. It has been proved possible to eliminate hydrophobia in England by legal restraint. There every dog is held to be under the responsibility of some person and stray dogs are destroyed. No dog can be brought into the British Isles without being quarantined for a sufficient time. All dogs at large must be muzzled all the year around. In five years of the workings of this law the number of cases of hydrophobia decreased from 300 to none and now it is an extinct disease in the United Kingdom. There are also good and efficient dog laws in Germany.

What has been done elsewhere could be done here if proper interest were taken in the subject by the city aldermen. Last year there were fourteen deaths from the disease in Chicago and this year so far twenty. The people are ignorant of hydrophobia. Many say it is a myth. The ordinance now in Chicago only requires the muzzling of dogs from March to November, during the warm months. Hydrophobia is just as prevalent in the cold months as in the summer. Another obstacle is from the ignorance of the lovers of dogs and of the humanitarians. They do not stop to consider that stringent dog laws which prevent hydrophobia in man also prevent suffering from the same disease among their four-footed friends. It is as much a mercy to them as to man to prevent hydrophobia. The speaker said he had received many abusive and some threatening letters from enthusiasts on account of what he had said and written on this subject. The proper body to act in this matter to bring the question before the Common Council of the City of Chicago was the Chicago Medical Society. We should demand the passage of a good dog ordinance and its strict and impartial enforcement. In no other way can the disease be controlled.

Dr. A. Lagorio, Director of the Chicago Pasteur Institute, read a paper on the subject of hydrophobia from the therapeutic standpoint.

Hydrophobia from the Therapeutic Standpoint by A. Lagorio, M. D.:

To properly understand the therapeutics of hydrophobia we must know the biological properties of the rabic poison, and what are its best neutralizers outside the animal organism. This virus has very little resistance to the action of the chemical and physical agents. The sunlight quickly destroys the virulence of the spinal cord of a mad rabbit in 14, 24, 30 hours, and it cannot resist high temperatures. According to Celli and Biasi the vapor of water at 100c. degrees destroys it in half hour, at 50 c. degrees in one hour, and that at 45 c. degrees in 24 hours; and according to Babes the same effect is obtained by a heat of 62 c. acting upon it for four minutes, and that of 58 c. in one hour. The atmospheric oxygen seems to have the same deleterious action upon the virus. On the other hand low temperatures 16, 20, 30 c. degrees below zero do not change the activity of the virus. The same can be said of compressed air and carbonic acid, in which

the virus will keep its infecting power for a long time.

The hydrophobic poison will maintain its virulence for some time if protected from heat and putrefaction.

Celli and Blasi have made some very interesting experiments to ascertain the resistance of the virus to the action of chemical agents. Corrosive sublimate solution 1 in 1000 quickly destroys its activity. Alcohol also has a marked action, while neutral glycerine will keep the virus unaltered for three months and possibly longer. This fact is to be remembered in sending specimens to the laboratory for experimental purposes.

A 5 per cent solution of carbolic acid neutralizes the rabic poison in fifty minutes; a 3 per cent solution in one hour, and a 2 per cent solution in two hours.

A 5 per cent solution of muriatic acid neutralizes it in five minutes, the same with nitric acid, and ten minutes with sulphuric acid.

A 5 per cent solution of zinc sulphophenate neutralizes it in 5 minutes.

A 1 per cent solution of pot. permanganate neutralizes it in twenty minutes.

A 1 per cent solution of zinc sulphate neutralizes it in ten minutes.

A saturated solution of nitrate of silver neutralizes it in five minutes, a 50 per cent solution in five minutes and a 25 per cent solution in ten minutes.

Creolin has a most pronounced effect upon the virus, a solution of 1 per cent neutralizing it in three minutes.

A saturated solution of caustic potash neutralizes it in ten minutes.

A 4 per cent solution of boric acid neutralizes it in fifteen minutes.

A 10 per cent solution of sulphate of copper neutralizes it in five minutes.

It is customary in Paris to throw all bodies and all unused parts of the dead rabid animals in a tub containing a four per cent solution of sulphate of copper. They are picked out by the scavengers with bare arms without fear of infection, as their virulence is known to be destroyed.

A 5 per cent solution of salicylic acid neutralizes the virus in five minutes and it takes ten minutes for ammonia, ten minutes for iodol and twenty minutes for iodoform. Iodoform therefore has a rather weak neutralizing action upon this poison, while on the contrary it has a marked one on that of tetanus.

Lemon juice, so readily found in every household, has a quick and marked action upon the virus, neutralizing it in three minutes. This remedy has been in use and held in high esteem by the inhabitants of Sicily for centuries. The experiments made upon it have shown that their belief is well founded. I could proceed on this line and relate many more studies, but time forbids. However, we have seen that the rabic virus has a weak resistance to the action of caustic and antiseptic substances.

In treating dog bites the question of cauterization presents itself. It is generally done by physicians as a practice brought down to us from times immemorial, and also because the patients expect to have it done. On account of the rapid absorption of the poison, and as we cannot often destroy it in time, we must not rely on it too much. The statistics have demonstrated that the number of failures is about equal among those which have not been cauterized, as among those which have been cauterized with the actual or thermocautery. Babes and Talesescu made some interesting experiments upon this point. They impregnated large wounds made upon dogs and rabbits with the fixed virus and then cauterized them with the thermocautery after a variable period of time. The conclusion was that cauterization done after only five minutes did not guarantee against the evolution of the disease, and that by cauterizing within the first thirty minutes, only half of the animals were saved. But these experiments proved that although the animals could not be saved, death was considerably delayed. This is of great importance, for it demonstrated that by lengthening the period of incubation, we gain time, and the prophylactic treatment can be more successful.

The statistics of Proust show 78 per cent of deaths for wounds not cauterized; 66 per cent for late cauterization; and 20 per cent for immediate cauterization. Bouley was most emphatic in favor of it. Cauterization then should not be discouraged, and whenever possible it should be done at once after being bitten, with strong caustics capable of attacking deeply every part of the injury such as actual cautery, pure carbolic acid, and strong mineral acids. The wounds of the head and face should receive prompt attention and vigorous treatment; thorough irrigation with corrosive subl. solution, or creolin solution or lemon juice and also cauterized. Deep punctured wounds should be enlarged and treated the same. Extensive lacerated wounds should be irrigated with the same solutions in every part, and compresses applied of creolin solution until healed. Churchill tincture of iodine has also been a favorite of mine freely applied to wounds and cicatrices. I am surprised that so many physicians still apply poultices to this kind of injuries, they have no place in the treatment of dog bites. The physician ought to use good surgical common sense, as he would in treating any other infected wound. I am convinced that the brilliant results attained by the Pasteur treatment are in part due to the good attention given to the wounds in all institutes. Having had the wounds attended to the patient will ask: is there any danger from this bite? What must I do? The future life of the patient now depends on your answer and advice. If the animal is living, if we know where it is and seems well, it should not be killed but kept under observation for at least ten days. If after this time the animal is in a good healthy condition there can be no danger from its bite. It is a great mistake people make to kill the dog at once after being bitten. They do this on account of the prevalent and most foolish supposition that if a dog, although healthy now, should become rabid months or years after, the bitten person will also go mad. By killing the dog we destroy the chance of certainty as to the fate of the person and leave the imagination full rein to fear the worst results when it might

have been possible to know in advance that hydrophobia was impossible. There are exceptions to this rule that will suggest themselves to persons. When a dog is so vicious that to leave it alive is to endanger other people, then the first duty would be to destroy it unless it could be kept carefully secluded where the possibility of harm would be removed. But even in such cases where the dog is killed it should be done in the presence of a physician who should keep a portion of the brain for determining whether the animal had rabies or not.

When a person is bitten by a strayed vagrant dog which disappears and cannot be traced, the patient should be advised to undergo the Pasteur treatment, and the same advice should be given to a person bitten by a dog which has been killed at once, and the carcass destroyed or removed to an unknown place, so that no examination of it could be made as to ascertain whether it was suffering from rabies or not. There might be a possibility that the animal was not rabid, but it is far better that the patient be inoculated for a disease which he has not contracted, than to take chances of being stricken with hydrophobia. And lastly the treatment must be advised at once to persons bitten by animals recognized rabid by veterinarians or other competent men.

In this short address I cannot discuss as I ought to, the well known Pasteur method for the prevention of hydrophobia. We owe to Pasteur the important discovery that the rabic poison resides in its pure state in the nervous centers. That the activity of the virus becomes modified in the organism of the rabbit, of the guinea pig, and of the monkey, and that its virulence becomes fixed to a certain degree in each species. That the virus becomes stronger by passing through rabbits and guinea pigs, and weaker through monkeys. The principal facts which serve as basis of the Pasteur treatment are: 1st, the increase of the activity of the virus by its passage through rabbits. 2d, that the spinal cord of a rabbit, which has died from the inoculation of the fixed virus, looses by degrees its virulence by means of progressive dessication. 3d, that these graduations of attenuated virus have on animals a vaccinal power, that is to say protective against the action of strong virus. 4th, that its inoculation can be applied to the prophylaxis of rabies in man.

As human beings bitten by mad dogs do not usually develop hydrophobia until a certain period of incubation is passed, usually four to eight weeks after the bite, this time is utilized to render the person refractory. The Pasteur treatment being only a preventative, it must be applied before the definite symptoms of hydrophobia have developed. The sooner it is given after the bite, the more successful it has proven to be. The principle involved in this treatment is the establishment in the patient a tolerance to the poison from which he has been infected; and this is accomplished by repeated inoculations of a weak virus first, gradually progressing upwards, ending with the strongest. The method is more or less varied according to the severity of the bites of each case. The principle of the method is always the same, although multiple in its application. The duration of treatment is from fifteen to twenty-one days.

Bites of the head and face have always been considered most dangerous, and the mortality figured by LeBlanc at 80 per cent, and by Brouardel at 88 per cent. Pasteur treatment has reduced it to 1.75 per cent. Bites on the hands with a mortality of 67 per cent have been reduced to 0.60 per cent, and the bites of the body with a mortality of 20 per cent have been reduced to 0.32 per cent.

The statistics of Proust and Faber place the general mortality of bitten persons at 20 per cent; LeBlanc at 16 per cent; Poland at 25 per cent and other observers give even higher figures. The report of the Pasteur Institute of Paris for 1902 among 1105 persons treated gives only two deaths or a mortality of 0.18 per cent.

Every great scientific discovery has never been accepted without opposition, and Pasteur's has had its share, however to day the profession in general has become convinced of its utility and advises it. Whatever opposition there is at present is only reduced among the timid or those who are rather incompetent to discuss it.

Once the symptoms of hydrophobia have developed, very little can be done beyond palliating the sufferings of the patient until the end is reached.

Novi and Roppi in 1892 reported the recovery of a patient from hydrophobia. The patient was about finishing a course of Pasteur treatment, when he began to show signs of hydrophobia of paralytic type. Intravenous injections of virus of the 5, 4, 3 days dessication were given, 14 in all, and the patient recovered. Murri in 1894 reported another recovery by intravenous injections, and Bordoni Uffreduzzi also had two recoveries. I tried the intravenous injections in two patients, stricken with the disease while under treatment, but the patients died.

The hydrophobic patient ought to be secluded into a darkened room. His ears plugged with wax, and no noises of any kind permitted in the room. Draughts of air must be prevented entering the room by keeping doors and windows closed. Air and water are the two greatest tormentors to a hydrophobic patient. No water should be brought in the room to his sight nor offered to him to drink, as every attempt at swallowing brings violent spasms of the muscles of deglutition and of the respiratory muscles of the larynx. Morphine should be avoided in the first stages as all other narcotics, but instead stimulants oxygen, hypodermoclysis of salt solution should be tried. The pharynx and larynx ought to be swabbed with a five per cent solution of cocaine which may allow the patient to hold little pieces of ice in the mouth, suck an orange, and possibly the stomach tube may be used to introduce nourishment and remedies. Curara I have tried and I thought with some benefit. The accumulation of thick mucus in the throat is most distressing to the patient. It should be removed, and a hypodermic injection of atropine is worthy of trial. Lastly chloroform by inhalation will afford the best relief in controlling spasms to the end.

Antirabic serumtherapy has had some attention; interesting studies upon it have been

made by Babes and Lepp in 1889. Tizzoni and Schwartz in 1892, and Tizzoni and Centanni in 1895 published some interesting studies upon this line. Babes and Talesescu in 1895 confirmed Tizzoni and Centanni experiments. They also found that the serum had proven to be efficient on animals of the same species, as that of the dog upon the dog, and that of the rabbit upon the rabbit. However so far no serum to be applied to man has been prepared.

Studies upon this line are continuing, and let us hope that a serum will finally be discovered that will cure hydrophobia as successfully as Pasteur's discovery prevents it.

Mr. John G. Shortall, President of the Illinois Humane Society, spoke on the question from the humane standpoint.

After saying that his position was that of a listener and a learner rather than that of one who could inform the club, he tactfully alluded to the common interest of the members of the medical profession with the humane society authorities in the prevention of suffering, of which the world is so full. So far as he had learned, the **cause** of rabies is yet to be ascertained. He is satisfied that it exists—to a very limited extent, however. In all Italy, from 1881 to 1886, the average mortality was about 65 per annum. Then M. Pasteur's discovery was announced and an antirabic institute was opened in Milan; afterwards others in Turin in 1886, and following, those of Bologna, Padua, Naples, Palermo, Rome, Faenza and Florence. Now mark, in the fourteen years, 1887 to 1900, the single institute of Turin made 4896 anti-rabic **cures**; an average of 350 per annum. The speaker examines from the humane standpoint. Now England, which has given no adhesion to the Pasteur system in the same fourteen years, has had a total of 147 or 10.5 per annum.

Neither in Asia Minor nor in Constantinople, he is informed, is rabies known; yet, in Constantinople, dogs are so numerous as to be stumbled over constantly. A suggestion as to cause occurred to him when listening to Dr. Hektoen's description of the lesions in some forms of acute syphilis which are similar to those found in rabies, that perhaps a causal factor might be found in the deprivation in western countries of sexual gratification to so many male dogs.

Hydrophobia—the disease rabies developed in man—from the humane standpoint, seems to him to call when fully developed, for the quickest and most painless destruction possible of the afflicted life. But the spectacle of the poor dog, either afflicted or supposed to be with rabies, with a mob of half-crazed persons chasing him, shooting, clubbing, firing missiles at him, is a pitiable one. He has always urged that the afflicted animal when suspected should be separated from all life for at least four months, to allow a certain conclusion as to its disease. What a comfort to one bitten it would be to find that the animal had no rabies whatever and that related disease "Hydrophobia" be thereby avoided.

He advocated the capture by the net, which should be hung in every police station, and the seclusion of the suspected animal until such time as the diagnosis could be perfected. The bullet could come when there was no longer doubt and aim could be safely taken, unshaken by the nervous fear which obtains during the excitemnet of a "mad-dog" hunt.

Dr. A. H. Baker, Treasurer of the Chicago Veterinary College, read a paper treating the subject from the veterinary standpoint.

Rabies is an acute infectious nervous disease affecting all warm blooded animals, but most often the canine race. This is due to the fact that dogs do more biting than animals of other genera, especially when rabid. A mad dog will bite a great many other animals, thus spreading the disease, while other animals, even when rabid do not usually bite to do much harm. This disease has been recognized and dreaded since the days of Aristotle, 322 B. C.; quite frequently it has existed as an enzootic, and seems to be increasing and spreading. The whole civilized world has been invaded by it, and it exists in every known country to day except Australia. The exemption of that country is due to the strict supervision over and quarantine of the dogs. It is much more common in the United States than is realized, and it is particularly prevalent in and around Chicago at the present time. Scarcely a week passes without a case or two of rabies coming into the hospital of the Chicago Veterinary College. No official statistics of cases of rabies are made in this country, but in Europe official reports show that it is very prevalent. Germany reports 1202 cases in animals in 1898, mostly dogs; France reports 2374 in 1899. Belgium had 444 cases in the same year; Great Britain had 727 in 1895, and Hungary had 1397 in the same year. It used to be supposed that rabies was more common in hot weather, dog days, than in other times of year, but statistics show that that is a fallacy. In 14066 cases recorded in Europe by months, 943 occurred in January, 1045 in Februray, 960 in March, 1323 in April, 1419 in May, 1467 in June, 1435 in July, 1294 in August, 1145 in September, 905 in October, 933 in November and 1137 in December. Another fallacy of the past was its supposed spontaneous origin under various unfavorable conditions. Although no specific germ has as yet been discovered, we believe, from analogy, that there must be one, for it runs a tolerably regular course and invariably terminates fatally in a more nearly definite time than almost any other disease. We conclude from experience that hardship, starvation, thirst, filth, heat, confinement or any other condition of environment has nothing to do with its origin but that in order to produce it, it is necessary to have the virus brought in contact with a wound where it may be absorbed. The virus is known to exist in the saliva, spinal cord and brain, and has been reported in the pancreas and milk. It can be removed from the saliva by filtration, indicating its existence in solid particles. When the virus enters the system either by the bite of a rabid dog or experimentally it remains for an indefinite time without producing any local or systematic effect, but is being carried to the spinal cord by the nerves and through it to the brain then this accomplished symptoms begin to develop. This period of incubation is variable. Ravenel gives the average in the various animals as follows: Man 40 days, dogs 21 to 40, horses

28 to 56, cows 28 to 56, cats 14 to 28, pigs 14 to 21, goats and sheep 21 to 28, birds 14 to 40. Rabbits innoculated subdurally 12 to 62. The period is shorter when the individual is bitten on the head than on the extremities. I have found the period in dogs usually runs from 15 to 21 days, and in horses 28 to 35. The virus is destroyed by drying and the action of light. Sunlight destroys it in 40 hours. When spread in thin layers it is destroyed by drying in 4 or 5 days. Roux found that the virus from a rabid brain was as virulent after four weeks immersion in glycerin at 30 c. degrees as when fresh. It is resistent to putrefaction. Galtier found the virus active in the central nervous system of rabbits after burial for 23 days, in sheep after 31 days, and in dogs after 44 days. A temperature of 50 c. degrees destroys it in one hour, of 60 c. degrees in half an hour, but it is uninjured by extreme cold, resisting a prolonged application of 10 to 20 c. degrees below zero. It is destroyed by a 5 per cent solution of carbolic acid in one hour, or by 1-1000 solution of bichloride of mercury. A saturated aqueous solution of iodine destroys it in ten minutes. The disease in dogs takes two forms, the furious and the dumb. In the furious he will bite viciously at anything that irritates him or that comes in his way, animate or inanimate and has an uncontrollable desire to gnaw. If loose, he will chew up and tear to pieces the carriage cushions, rugs, etc., if confined he will gnaw his chain, the woodwork or anything within reach. If a stick is pointed at him he grabs it viciously. Dogs in this condition often have bloody mouths from wounding of their gums. Saliva flows freely from the corners of the mouth, his voice is affectde, his howl being hoarse and dismal, he is extremely nervous, never sleeps nor rests, but is watchful and uneasy, he will eat in the early stage, but his appetite is depraved, seeming to prefer rubbish to good food; he will try to drink water but seems unable to swallow it. After two or three days nervous paroxysms give way to paralysis and exhaustion. If loose, in his delirium he will wander away from home, taking a slow trot and keep it up, jumping at or biting any person or animal coming in his way, but occasionally, especially in the early stage, he will seek flocks of sheep and other animals and will worry them till he gets tired and will then continue his tramping, often covering long distances, only stopping when exhaustion and paralysis prevent further motion. In the dumb form about the first symptom seen is dropping of the lower jaw. The tongue protrudes and gets dry and brown. The countenance is changed to one of distress and anxiety. He is unable to bite or chew food and is unable to swallow. He will slobber in water about half the time, but is unable to drink. This form is usually quiet, no delirium, no howling nor inclination to rave. He is comparatively harmless, but the saliva is just as virulent as that of the furious type. On the second day the temperature begins to rise, which on the fifth day often get up to 106 degrees F. On the fourth day he begins to wabble in his gait from exhaustion and paralysis, which increases rapidly till death, usually on the fifth day.

In horses, the first symptoms of the disease, usually is rubbing or biting the bitten part, great nervousness, inability to swallow, great thirst, and when trying to drink will have paroxysms, delirium, inclination to bite men, dogs and other horses, fever, paralysis, and death by coma in three to five days. Some veterinarians deny the existence of such a disease as rabies, but with such symptoms, course of the malady, and invariably fatal termination in a tolerably definite time as described above, it is a mystery how they can hold such an opinion. It seems to me that the motive is questionable. The practical prevention of rabies in this part of the country, where the only means of its spread lies in the dogs, is to catch and destroy all ownerless or tramp ones, and muzzle all others whenever they are taken off the premises of the owner.

Dr. Lagorio, in the discussion, said that the heat of summer was a factor rather against than favoring the spread of hydrophobia. He had placed dogs in the sunshine of hot weather and found that he could not give them hydrophobia even with the strongest virus. He urged muzzling all dogs the year around and killing of all stray and ownerless animals. Answering a question in regard to the possible length of the period of incubation for a long time, even for years, he said that in animals four months was considered a safe period. In man he had observed that three-fifths of the cases developed within two months after the bite, one-fifth within three months and the remainder after three months. Fifteen days was the shortest period he had known and the longest one year. The last case was of a boy bitten in the face. The dog which bit him showed the disease by inoculations on rabbits but the friends of the boy became satisfied with the application of a madstone. He died exactly one year after the bite. The case which developed the symptoms in fifteen days died in twenty-four hours, thus only sixteen days after receiving the bite.

In answer to a question about madstones he said that a madstone was a porous stone which was boiled or heated and thus the air driven out of its pores. It was applied hot and therefore acted precisely like a dry cup in sucking out the wound. The madstone superstition has a wide vogue among the laity, and especially in the southern states is the belief in the efficiency of this measure very prevalent and strong. He was surprised that many clergymen own such a relic of barbarism, and the officials of the state of Ohio kept one in the capitol.

Dr. Joseph Zeisler, in the discussion, described the horrors of the only case which he had been so unfortunate as to see. It occurred twenty-three years ago and was observed by the doctor for twenty-four hours. The sight of the agonies of the patient was terriffic, the intervals of a few minutes of rationality, then spasms furious in character and finally death in great anguish. He related the case of a man who had spoken to him about his fine hunting dog which had acquired the habit of masturbation and which afterwards developed suspicious symptoms and was shot. Before executing the animal however the master had several times thrust pills down the dog's throat and was in great mental disturbance lest he might have

inoculated his hands through some imperceptible wound.

Drs. Martin, Parron and Ochsner of New Orleans, who were guests were called upon and replied in happy vein. Dr. Martin asked the advice of the members as to how best to muzzle the animals which troubled his community more than hydrophobic dogs did Chicago, namely, the malarious mosquitoes.

Dr. W. L. Baum moved that the directors be requested to confer with the Council of the Chicago Medical Society to devise measures looking to the passage and enforcement of an adequate muzzling and dog law in this city. Carried.

The meeting adjourned at ten o'clock. There were present fifty members and guests.

Clinical Reports

A Case of Repeated Abortions due to a Retroverted Uterus. Treated Successfully by Massage and Gymnastics.

By Dr. George Rubin, Chicago, Instructor in Gynecology at the Medical Department of the University of Illinois.

In an article entitled: "Massage and Gymnastics in Gynecology," which appeared in the Chicago Medical Recorder, November, 1902, I reported among other cases one (Case VIII) that was much like the one described below, but in which the result of the treatment was unfortunately negative. I am therefore glad to have the opportunity to report the following case.

Mrs. Fannie R., Hungarian, housewife, 29 years of age. Has always been well prior to her marriage. She menstruated at fourteen and was always regular. Six weeks after her marriage she aborted and two other times afterwards; three abortions in about six months. Since her first abortion she experienced pain in the back, bearing down and same pain in the right iliac fossa. At times she had to urinate frequently, which was accompanied by a burning sensation. She also complains of general nervousness, constipation, loss of appetite and occasional sleeplessness. She comes to me for advice in regard to her inability to bear children and complaining of her husband's unkind treatment on that account.

Examination.

Inspection: She is of a very small stature, but rather proportionate. Appears to be well nourished but somewhat pale, though her mucous membranes show no evidence of anaemia. Chest normal, temperature and pulse normal, urine normal.

Bimanual Examination per vaginam and rectum revealed a slightly enlarged retroverted uterus, cervix low down in the vagina. There is some pain on pressure about the right adnexa, but they are apparently normal in size and consistency.

Ocular Examination with a bivalve speculum showed a scanty, thin leucorrhoral discharge from cervix, although patient claims that at times there was rather a profuse discharge.

The diagnosis was of course plain and I attributed all of her subjective symptoms to the uterine displacement.

Treatment: I recommended massage and gymnastics, which was accepted, and I also prescribed for her iron, quinine and strychnine in capsules.

She menstruated three weeks after the treatment* was commenced, her regular time. Four weeks later she was happily disappointed by not menstruating. I discontinued the treatment and waited for developments.

She called at my office once a week to report. I examined her from time to time, but failed to find very marked improvement in the position of the uterus, to be sure there was some, the cervix was higher up and pointed a little posteriorly. She soon developed morning "sickness" and some "queer longings," etc., which make up the usual early signs of pregnancy. Before very long positive signs made their appearance.

Labor was due August 27, 1903, figuring from her last menstruation which occurred November 20, 1902. But she did not go to term. It came on the 1st of July fortunately. I say fortunately because she had a generally contracted pelvis, of a slight degree, although in that case I should call it normal, considering the size of the woman. She is four feet eight inches in height and her pelvic measurements are:

Interspinous	20 cm.
Bis-iliac	22 cm.
The conjugate	9 cm.

That is better than could be expected under the circumstances.

She was in labor about eight hours, with the exception of a slight unavoidable tear everything was uneventful. The child weighed about five and one-half pounds.

Now the question is what was the modus operandi of the treatment in that case?

I admit that there was not sufficient improvement in the position of the uterus to account for the successful result, and there was nothing in her mode of living during that time that could have wrought the change. So what then did the Brandt treatment do? I believe it did this; it equalized the pelvic circulation and relieved the congestion of the uterus, which is invariably present to a greater or less degree in all displacements.

By decongestioning the uterus and at the same time increasing the tone of the uterine musculature, it lessened the tendency of the uterus to throw off the ovum which it did before the condition was relieved. Whatever skepticism this report might call forth from the reader—it nevertheless deserves some consideration, since many similar cases have been observed before, especially by Brandt and Stapfer.

The method is very simple and the technique is easily acquired. Every physician who has to deal with such cases ought to try the treatment in question. If only one succeeds in a small percentage of cases it is well worth its employ-

*For the technique of Gynecologic massage and gymnastics, see Author's article in the Chicago Medical Recorder, Nov. 1902.

ment and thus save many women from surgical operations, which does not always insure successful results.

State Items.

A serious epidemic of smallpox was discovered at Lemont by Medical Inspector Spaulding, of Chicago.

Dr. Geo. F. Stericker of Springfield has been elected Medical Director of the recently organized Sterling Life Insurance Company.

Dr. James Whitney Hall recently of Bloomington, has entered the service of the Prudential Life Insurance Company and been appointed general agent in northern Illinois.

The Wabash Railway Employes Hospital at Decatur has been completed and was occupied for the first time Oct. 10. Dr. P. M. Parrish, of Decatur, has been appointed surgeon in charge. The hospital has been located in Springfield since 1883.

Dr. W. K. Jaques, head of the municipal health laboratory for several years has resigned. Dr. Jaques states that the work of the city was encroaching too much on his private practice. Dr. F. E. Wynkoop has been appointed temporary superintendent of the laboratory.

Found at last—A patent medicine which is not guaranteed to cure everything and everybody. The following advertisement recently appeared in the Chicago Tribune: "For Sale—Patent Medicine Business; plant, machinery, copyrights, trade marks; mail order started; owner sick."

The following advertisement found in one of the Chicago daily papers may partially explain why the profession is overcrowded: "Study medicine; learn an honored profession. We take only limited number of students and give thorough instruction to small classes. Low fees; noted faculty. Write for free catalogue. College of Medicine and Surgery, 245 Ashland Boulevard, Chicago."

Dr. J. Mansfield, one of the oldest and most prominent physicians of Washington, Tazewell county, who was last week tendered the position of physician at the South Bartonville hospital for the insane by Governor Yates, has declined, giving as his reason that he is of the opinion a younger man is more fitted to fill the place.

Physicians and medical students hereafter will be obliged to pay a higher price for surgical instruments. The American Surgical Trade association, in session in the Victoria hotel, Chicago, abolished the discounts allowed in the past and established new rates, the most liberal discount being 5 per cent for payment in ten days. Ten per cent will be allowed for goods purchased by druggists, medical colleges, hospitals, sanitariums, and public institutions for their own use.

At the recent meeting of the Illinois State Conference of Public Charities, the Quincy jail was declared unfit for a human being by John J. Sloan, superintendent of the Chicago Bridewell, in an address. He also condemned the management and said the food served the prisoners was not fit for a rabbit to eat.

The county jails of Illinois, according to Judge Humphrey of the United States court, are not fit places for human beings. Twice has he refused to send prisoners to county jails where the sentence is more than thirty days, and recently he committed a half dozen to the Peoria workhouse and stated he would never send any man to an Illinois jail until they were made sanitary and properly ventilated.

The mayor of Mattoon was recently indicted, tried and deposed from his office on the charge of malfeasance. One of the charges was that he entered into a conspiracy with a physician of the city, in which he made an order that the women of the town must pay for protection under the guise of health certificates, the charge upon which was $1 per week, the mayor to have half the fee.

After the use of a sacred relic cured her injuries, she alleges, a jury in Judge Mack's court gave Mrs. Agnes Elwood a verdict for $5,000 against the Chicago City railway company. It was the third trial of the case.

Mrs. Elwood sued for $50,000, alleging that her hip, knee, and ankle were injured May 19, 1898, while she was alighting from a street car at Evans avenue and Forty-seventh street.

The plaintiff told the jury she was miraculously cured Aug. 19, 1902, by the application of a relic of St. Anne, in St. Joseph's church, Thirty-eighth place and California avenue.

Proof of the baneful effect of higher education on the matrimonial prospects of young women was furnished when the first "General Register" of the University of Chicago appeared with statistics for the first decade of the university's existence. Here are the figures recently published:

Number women graduates (ten years)	583
Number married	107
Number teachers	305
Percentage women married	18.0
Percentage women teachers	57.5

In 1893, the first year in which the university conferred degrees, three women were graduated, and all were married. The next year nine women were graduated, but not a one was married. Seven became teachers.

The highest per cent of marriage—except that 1893—was attained in 1896, when 20 out of 39 graduates were married.

Peoria, Ill., Oct. 21.—Warrants charging murder were tonight issued for the arrest of E. A. Sorrells and Thomas Flynn, guards at the Illinois Asylum for the Incurable Insane, who

struggled with Thomas Hartley, an insane patient whose home is in Chicago, and from the effects of the struggle died within an hour and a half. Sorrells was examined for three hours today and he refused to answer, issuing a signed statement to the effect that he feared he would incriminate himself. Flynn refused to answer any questions propounded. The autopsy shows that Hartley had six ribs broken and almost every vital injured. Coroner Harper called a halt in the proceedings and consulted State's Attorney Tefft and the warrants were issued by Squire Moore.

Warrants for Sorrells and Flynn were placed in the hands of Sheriff Potter tonight, but up to midnight the sheriff has been unable to locate the men. It is thought that they have left the country and the papers will be served tomorrow morning.

In his third sermon on homemaking in the Stewart Avenue Universalist church recently Rev. R. A. White, of Chicago, advocated some radical laws regulating marriage. He said in part:

"To sentimental people it will seem little less than a sacrilege to insist upon the following regulations of marriage as a matter of social safety: First, a medical examination of parties proposing to marry; second, investigation of the ability of the man to support a family; third, a careful examination as to criminality in cases where the applicants for marriage licenses are from classes of people of criminal tendencies; and in each case a refusal of license if the result of the investigation is unfavorable.

"It must increasingly be seen that marriage is not merely a personal matter, to be left to personal whims and caprices, but a great social factor, freighted with boundless good or terrible evils. Marriage laws based on modern scientific knowledge would, in a few generations, do more toward reforming our various evils of pauperism, disease, and crime than all our multiplied and well intentioned benevolences combined.

"We have a desperate tendency to work at the wrong end of our social problems. We are absorbed in the problem of cure and too careless of prevention. Marriage is the place to begin reforms of wide reaching influences."

John Alexander Dowie, "Elijah II., the Restorer," self proclaimed messenger of God, who is to lead a host of his followers from Chicago on October 14, to rescue New York from perdition, has planned a vigorous campaign in the eastern metropolis.

The Zion "restorationists" will number 3,000, and the crusade will cost $300,000. There will be uniformed Zion guardsmen 870 strong, with Bibles swinging at their sword belts. There will be a white robed choir of 700 singers. There will be a fife and bugle corps and a Zion band of seventy-five pieces. The hosts will be quartered in Madison Square Garden.

"A little man with bandy legs," as he describes himself, the Rev. John Alexander Dowie is the general overseer of the Christian Catholic Church. In Zion, a church organized by himself. Ten years ago he landed in Chicago a poor missionary for an unpopular cause, and today his followers number 100,000 and his dollars 5,000,000. More than that, he has built up Zion City, a town numbering 10,000 inhabitants, on the shores of Lake Michigan forty-two miles north of Chicago.

Dowie is a Scotchman by birth, but went to Australia when a boy. He studied for the ministry and was ordained in the Congregational church in 1872. Renouncing this church to become an evangelist, he traveled all over Australia and England, eventually reaching Chicago in the exposition year. Since then his success has been phenomenal.

Complaint has reached the editor concerning the transactions of one H. D. Easterly, claiming to represent the Peoria Health and Accident Association (in process of organization). On June 10, 1903, he gave one of our members a certificate, a copy of which without the name, follows. The doctor states that since paying his money he has failed to find any trace of Mr. Easterly and to hear anything from the letters written to Peoria to the officers.

"$15.00 .....Ill., June 10, 1903.

Received of .....M. D., fifteen dollars and application for membership and Indemnity Certificate in the Peoria Health and Accident Association (in process of organization), Peoria, Illinois. Unless you receive notice of your acceptance or your money is returned within two weeks from the date of this receipt, please notify the Home Office, giving name of person to whom money was paid, amount paid and date when paid.

It is expressly understood and agreed that said application shall not be binding on the Association for indemnity until after the certificate has been issued and delivered to said applicant or member and said applicant has paid the certificate fee of $1.00.

H. D. Easterly.

Your next payment will be due ninety days from date of your certificate. Payments are due monthly. Certificate fee of $1.00 must be paid on delivery of certificate."

Col. Frank O. Lowden, candidate for the nomination of Governor in announcing his candidacy said the following which is of interest to the physicians of the State:

"I believe in the principle of the merit system of public appointments; but whether or not positions are in a classified service, merit should be the first requisite for appointment.

"An appointee's tenure of office should depend upon his loyalty to the State, not upon his personal devotion to the executive. It is my ambition to be governor of Illinois, and not a party manager.

"The best men that can be secured should compose the managing boards or trustees of state institutions, and they should be held solely responsible for the management of the same, wholly free from executive interference, except where such management shall have demonstrated incapacity or improper care of such in-

stitutions. In that event, executive interference should be limited to removal of the persons thus delinquent."

Mr. Deneen, another candidate for the nomination has announced himself in the following language:

"The state penal and reformatory and charitable institutions ought to be placed in such a position that they could be managed in such a way that no private institution in the state could excel them, and certainly no private institution would feel safe in having rules—or, rather a plain understanding among all those employed—that they would likely be removed at the slightest whim of a new administration, or a new superintendent."

Judge Sherman, another candidate, speaks thus of civic societies:

"If anything is to be accomplished men of affairs and civic societies must take the initiative. They must take sides. I like the man who takes sides, for he is the only man who accomplishes anything."

One Arthur C. Probert, said to be the promoter of the alleged St. Luke's Hospital of Niles, Michigan, appears to have been finally brought to book for his efforts to use the mails to defraud. From the Chicago daily papers we take the following extract from a sketch of his career as a "physician:"

"Probert's title of banker is said to have been well earned, but that of "doctor" is said to have been conferred upon him after a one day attendance at a Chicago "college." As a "physician" he is said to have been the head of one hospital and a director in another, both of which have been set down on the records of the Chicago Medical Society as "diploma mills."

It was in connection with one of these institutions, the Christian hospital, at 617 LaSalle avenue, that Probert became involved with the federal authorities.

The LaSalle avenue institution was called to public attention on June 3 last, when Dr. J. B. Murphy asked Judge Jesse Holdom to restrain the hospital and its officers from using his name and signature on certain "certificates" which it issued. These "certificates" were sold to physicians at from $20 to $25, and, besides purporting to give the holder "official standing," gave him also certain commissions on all medical cases he might send to the hospital.

Dr. Murphy declared that the use of his name was unwarranted, and evidence secured by the Chicago Medical Society resulted in the arrest of Probert and others on a charge of using the mails to defraud.

The medical society's investigators at that time also secured evidence of a similar institution at Niles, Mich., known as "St. Luke's hospital," which Probert conducted in 1900.

The Niles institution sought to secure the use of the name of Dr. Nicholas Senn on its "certificates," but Dr. Senn prevented it. A crusade by the medical men of repute resulted in the abandonment by Probert of the St. Luke's hospital at Niles.

Probert was convicted of embezzlement and sentenced to the penitentiary at Waupun, Wis. He was committed July 23, 1896, and remained in prison until Sept. 9, 1898.

Malpractice Suits.

Dr. Harold N. Moyer, chairman of the legal committee of the Chicago Medical Society, in an article on Forensic Medicine, in the Practical Medicine Series of Year Books for the current year, says in a review of the current literature on the subject of malpractice suits: "They are increasing in frequency, but the number of suits successfully prosecuted is no greater, if there are as many, as a few years ago. The increase in this class of litigation seems to be dictated by the same influences that have increased the personal injury litigation throughout the country. The legal construction in this class of litigation has remained substantially the same, in the code and common law states. There have been minor rulings on given sets of facts that have some bearing on individual cases, but they do not affect the general principles of the law applicable to this class of litigation. By far the larger number of suits are brought without hope of coming to successful trial, but are urged by disgrunted patients to avoid the whole or a portion of the physician's just compensation, or else are a species of blackmail urged by unscrupulous attorneys.

This situation has attracted attention, throughout the country and has led physicians to combine for mutual protection. A couple of insurance companies have been started for the purpose of insuring physicians against loss from this class of litigation. In imitation of the English protective association, some medical societies have undertaken to protect their members against unjust suits of this kind. The experience of the English association has been very happy. At a nominal cost of a few shillings for each member they have provided attorneys, and successfully defended their members. The cost of the co-operative plan as inaugurated in England has been a mere fraction of the premiums charged by the insurance companies in this country, and yet the protection has been adequate. It has been the experience of these mutual associations that the majority of suits actually begun, or threats of suits, are what are known in slang parlance as a "shake down" for the doctor. Rather than appear in court or go to the expense of retaining an attorney for the defense of the suit, the plaintiff and his attorney hope that he will pay a small sum—from one to three hundred dollars—and thus avoid the trouble and worry of litigation and the incidental publicity. It is this class of litigation that is so effectively met by a co-operative plan. Retaining an attorney who will docket the cases, all that a physician has to do is to turn the matter over to a committee, who will look after the litigation and who can do so without much expense. A further valuable effect of such co-operative methods would be to give the profession valuable data upon such suits, their basis and the best means of defending them. If it were once generally known that no suits of this kind would be compromised, but would be fought to a finish, it would lessen the number of blackmailing malpractice suits to almost the vanishing point. In this, as in other matters,

the "ounce of prevention is worth a pound of cure," and it is to be hoped that the co-operative plan will receive wider application in the near future. There is no reason why it should not be made a function of all regular medical societies. In cases where the local society is of sufficient size, it can have a bureau of its own. Where local societies are too small, they can be aggregated together for this purpose, but in many instances the state society might undertake the work. The Chicago Medical Society, with its 1400 members, began this work with the beginning of the current year. In that short time no cases have as yet been tried, but a number has been disposed of in various ways, saving the members expense and trouble. The Chicago Medical Society set apart a sum amounting to one-fourth the annual dues, for this purpose. An attorney was retained by the year to look after the cases. In many instances a letter from the attorney stating that he had been retained and no offer of compromise would be considered, was sufficient to end the proposed litigation. A co-operative plan such as this among the physicians will be quite as efficient and vastly less expensive than insurance in a company organized for the purpose. The physicians can do the work for each other with less expense and quite as effectively as an insurance company."

This subject is one which should receive the attention of the medical societies. With the more perfected organization of the profession of counties and states mutual protection could be secured. The plan proposed would accomplish good, not only by protecting the individual against malpractice suits, but also in uniting the members of the profession.

Other State Societies.

California.

The California State Journal of Medicine is nothing if not plain spoken. Fortunately its editor is a man of high morals and the Journal is kept to the high standard which he advocates. It appears to us that he is a little too exacting when he insists that all papers read at the annual meeting of the State Society should first appear in the Journal of the Society. The utmost freedom has been given to our members in this matter and no dissatisfaction results. It is probably true however, that articles read at the annual meetings will obtain a larger number of readers if printed in the State Journal than if printed elsewhere.

* * *

Virginia.

That the Governor of Virginia is not afraid of "government by society" was shown by his approval of a bill passed by the Virginia State Legislature at its last session creating a State Examining Board for Trained Nurses. This board is composed of five members to be selected by the governor from twelve nominations submitted to him by the Virginia State Association of Graduated Nurses. Examinations by this board will not be required of nurses who graduate prior to January 1, 1904, and in the language of the bill: "This Act shall not be construed to affect, or apply to, the gratuitous nursing of the sick by friends or members of the family; and also it shall not apply to any person nursing the sick for hire, but who does not in any way assume to be a registered or graduate nurse."

* * *

New Jersey.

The State Board of Medical Examiners of New Jersey has secured amendments to the Medical Practice Act of that State by which the academic standards for admission to the State examinations have been raised from a competent common-school education to a diploma issued after four years of study in a normal, manual training, or high school of the first grade in that State, or its equivalent. The medical requirements have been increased from three to four courses of medical lectures of at least seven months each, in different calendar years, prior to receiving the degree of Doctor of Medicine. The amendments went into effect on July 4th. After that date candidates for examination, or for the indorsement of a license issued by a recognized examining board of another State, will be obliged to comply with the new standard of requirements for a New Jersey license.

* * *

Kentucky.

The last issue of the California State Journal makes the following remarks concerning the Kentucky State Medical Association Bulletin which has been established as the official publication of the Association, and has reached its third issue. "We are certainly glad to see another addition to the number of state association journals, for in time these publications will probably do away with a large number of the cheap and vile so-called 'medicals' that have come up all over the country and thrive on discreditable advertising. Many of these 'journals' are owned, body and soul, by one or more nostrum manufacturers, and they are used to aid in debauching the minds of a certain percentage of physicians. It is not easy, unless one knows or has had much experience, to tell the sheep from the goats, and the 'reading notice' giving a large sized endorsement of some nostrum may be as well written and read quite as entertainingly as a proper and scientific editorial in some other and reputable journal. A few new remedies are excellent, have an unquestioned value, and are such as to tempt one to occasionally speak a word of commendation. Yet these are comparatively few, whereas the great mass of preparations concerning which 'reading notices' are published are either worthless or out and out nostrums, not fit for any man to use or prescribe. Because these things are true, all reputable medical journals, and especially the official publications of states medical societies, should absolutely refuse to print in their reading pages any sort of advertising matter—and the 'reading notice' is advertising. The Kentucky State Association Bulletin contains a 'reading notice,' and without in any way reflecting upon the value or the worthless-

ness of the thing so advertised, we do not like to see it. We certainly cannot ask private journals, operated for profit, to 'please be good,' when the official publications of medical societies commit the offenses which the medical profession desires to have corrected."

Marriages, Deaths and Changes of Address.

Marriages.

Emil C. Becker to Miss Ida Grace Beal, of Chicago, Sept. 16.

Chas. A. Ballard, of Chicago to Miss Mabel G. Steen, of Waukesha, Wis., Oct. 20.

C. P. Colby, of Springfield to Miss Grace Bullard, of Mehcanicsburg, Oct. 29.

W. W. Coleman to Miss Bida Dunham, both of Lawndale, Oct. 14.

John G. Craig to Miss Alma Willett, of Chicago, Sept. 16.

Winfield B. Martin, of Freeport to Miss Iona MacDonald, of Chicago, Sept. 30.

C. C. Patchen to Miss Arminta M. Reed, of Mt. Sterling, Oct. 15.

Herman F. Schlieffarth to Miss Edna Dowling, of Chicago, Oct.

B. F. Shanahan to Miss Elizabeth Deutsch, of Chicago, Oct. 14.

H. G. Vernon, of E. St. Louis to Miss Maud Cooper, of Farmingdale, Oct. 21.

Chas. S. Williamson to Miss Josephine G. Stilwell, of Chicago, Oct. 15.

Deaths.

Cox., William M., Mt. Sterling, Sept. 14, aged 65.

Landon, Wesley M., Quincy, Sept. 13, aged 75.

Miller, Elias, Kensington, Sept. 5, aged 65.

Schlesinger, M. L., Chicago, Oct. 7, aged 37.

Schnell, Philip J. V., Chicago, Oct. 21, aged 35.

Smith, J. A., Manchester, Oct. 8.

Wingren, Edw. S., Chicago, Oct. 17, aged 29.

CHANGES OF ADDRESS.

Changes in Chicago.

Adams, Nathaniel K., 225 Oakley Boul. to 887 Jackson Boul.

Beardsley, J. A., 6405 Eggleston ave. to 6506 Peoria st.

Bidwell, T. S., 69 Laflin st. to 700 Leland ave.

Campbell, J. F., 103 State st., to 3519 Indiana ave.

Carpenter, T. G., 103 State st., to 67 Wabash ave.

Darling, C. G., 3823 Lake ave., to 50057 Washington st.

Dolan, A. N. J., 905 Wilson ave., to 853 Wilson ave.

Fortner, E. C., 579 W. Adams st., to 3462 South Halstead st.

Gould, Henrietta, 266 South Lincoln st., to 650 Congress st.

Holmes, Frank, 425 Center st., to 1228 Wilton ave.

Larned, E. R., 4217 Calumet st., to 5751 Prairie ave.

Manierre, C. E., 552 LaSalle ave., to 95th and Western ave.

Miller, C. H., 2731 LaSalle ave., to 6349 Jackson Blvd.

Miller, R. E., 5859 Wentworth ave., to 441 E. 31st st.

Prendergast, Joseph, 868 N. Park ave., to 417 Lake View ave.

Stillians, C., 103 State st., to 230 W. Chicago ave.

Schaller, George J., 1127 N. Clark st., to 518 Fullerton ave.

Walling, 103 State st., to 4127 Drexel Blvd.

Woelful, A., 4017 Vincennes ave., to 303 Ashland Blvd.

Young, C. C., 4216 Berkley ave., to 103 State st.

Young, N. A., 4216 Berkley st., to 103 State st.

From Chicago.

Adams, Carlos J., 856 W. Monroe st., to La Grange, Ill.

Coolidge, 103 State st., to Saranac Lake, New York.

Gallaway, D. H., 200 Oakwood st., to Paethe, Idaho.

Hohf, S. M., 213 Walnut st., to Yankton, S. Dak.

Patton, J. A., 103 State st., to Charleston, Ill.

Patterson, R. W., to Melrose, Minn.

Platz, C. H., to Columbus, Neb.

Smith, C. C., to Merrill, Wis.

In Illinois.

Heise, Ellen H., Canton to 58 Lake st., Oak Park.

To Illinois.

Carriere, V. A., St. Louis, Mo., to Litchfield.

Seawright, Edwin, Crawfordsville, Ind., to Danville.

Ricketts, Howard T., Kirkwood to 5498 Cornell ave., Chicago.

From Illinois.

Tydings, Oliver, Chicago to Piqua, Ohio.

New Incorporations.

The following corporations have been licensed by the Secretary of State at Springfield:

St. Thomas Sanitarium, Chicago; capital, $2,500; maintain hospitals and sanitariums; incorporators, Eugene Dupee, John T. Richards, and Frank T. Milchrist.

People's Sick Benefit and Aid Association, Chicago; charitable; incorporators, Lawrence W. Quirk, James P. Brennan, Rudolph H. Fremont.

Illinois Osteopathic Association, Bloomington: advancement of the science of osteopathy; incorporators, J. D. Cunningham, Lola L. Hays, E. M. Browne.

Parke, Davis & Co., Michigan; capital, $5,000,000; licensed to transact business in Illinois with $122,000 capital.

Institute for Gastro-Enterological Diseases, Chicago; capital, $5,000; care and treatment of the sick; incorporators, Robert W. Childs, Lester C. Childs, George Q. Alleman.

Home Medicine Co., LaHarpe; capital, $50,000; manufacturing proprietary medicines; incorporators John H. Hungate, Clarence A. Kappenberger and I. Hurdle.

The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE.

ADVERTISING MANAGER'S OFFICE, MARSHALL FIELD BUILDING, CHICAGO.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

INDEX TO ADVERTISEMENTS.

	PAGE.
Abbott Alkaloidal Co	XVI
American X-Ray Co	IV
Broadwell, Stuart	XIII
Breitenbach, M. J. & Co	VII
Colegrove, E. H. & Co., Books	XII
College of Phy. and Sur., Chicago	XVII
Chicago Eye, Ear, Nose and Throat College	III
Chicago Policlinic & Hospital	XVIII
Cincinnati Sanitarium	IX
Crittenton, C. N. Co	X
Decatur Drug Co	XIII
Denver Chemical Mfg. Co	VIII
Dodds, R. N	XIV
Fairchild Bros. & Foster	X
Fanshawe Handecker Apron Co	XVIII
Fellows Syr. Hypophos. Co	XIX
Finsen Light Inst., Chicago	V
Gardner Barada Co	II
Herzog Laboratory	XIV
Illinois Central R. R. Co	XVII
Illinois State Journal Co	XIV
Irwin, Neissler &Co	XV
Kress & Owen Co	VI
Maplewood Sanitarium	XV
Michigan Medical Journal	XVII
Milwaukee Sanitarium	XII
N. Y. Policlinic	IX
North Western University Med. School	IV
Parke Davis & Co	XX
Polk's Medical Register	XIV
Post Graduate Med. School of Chicago	III
Presbyterian Hospital of Chicago	II
Purdue Frederick Co	XIX
Rush Medical College	X
Sharp & Smith	XIII
Springfield Mattress Co	IX
Truax Green & Co	XIII
Victor Electric Co	XII
Wagner R. V. & Co	XVIII
Western X-Ray & Coil Co	XI
Whitford, Wm. Medical Stenographer	XVIII

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

Some Improvements in the Method of Local Analgesia.

A clinical lecture with the above title, delivered at University College Hospital, London, July 11, 1903, by Arthur E. J. Barker, F. R. C. S., Eng., appears in The Lancet for July 25, 1903.

Several points must be bourne in mind, among them the mechanical and physical difficulties in infiltrating all the nerves supplying an extensive field of operation. To inject the whole area so as to reach all its nerves would mean in many cases the use of much more of the toxic drug than is necessary, and in some cases so much as to be dangerous.

The author refers to certain observations by Braun, of Leipsic, on a method of overcoming the drawbacks incident to the usual mode of producing local anesthesia. This method is based upon the old experience that **anything which retards or diminishes the circulation of the blood in a part enhances the potency of the analgesic agent.** Experiments were made with Adrenalin, a very small quantity of which was injected with B-eucaine (or cocaine) into the author's own arm, and subsequently into the arms of numerous patients. After the lapse of twenty minutes the part was quite blanched and wholly insensitive to pain, remaining so for about two hours. Adrenalin, alone, used in this way had no analgesic effect, while the results of the use of the combined solutions of B-eucaine and Adrenalin were far superior to those produced by B-eucaine alone.

The most convenient way to prepare the solution is as follows: Powders each containing 0.2 gramme (3 grains) of B-eucaine and 0.8 gramme (12 grains) of pure sodium chloride are kept in thick glazed paper, ready for use. When needed one powder is dissolved in 100 c.c. (3½ fluid ounces) of boiling distilled water, and 1 c.c. of Parke, Davis & Co.'s Solution Adrenalin Chloride is added when the fluid is cool. The solution is left in the Jena glass beaker in which it has been boiled, which is carefully covered and placed in a vessel of warm water to keep it at blood heat.

The injection is made by means of a simple syringe of glass and metal of 10 c.c. capacity, with rubber washers, which can be sterilized by boiling.

To illustrate his method the author describes in detail the performance of an operation for the radical cure of inguinal hernia. The hernia is first reduced and the index finger is thrust into the external ring as far as possible. Along this finger the needle is entered and the inguinal canal is filled with 10 c.c. of the solution. An endeavor is made to inject it all around the neck of the sac so as to reach the genital branch of the genito-crural nerve. The needle is then entered at the external end of the line of incision in the skin, and is made to infiltrate the

superficial layers of the latter down to the root of the scrotum, making the resulting wheal at least an inch longer at each end than the incision is to be. Injections are then made at a point half an inch to the inner side of the anterior superior spine of the ilium, the needle being thrust towards the ilio-inguinal nerve, and at a point about one inch above the middle of Poupart's ligament where the ilio-hypogastric nerve is most conveniently met. Then the thigh is flexed and another syringeful is injected along the ramus of the pubis and the root of the scrotum or labium.

It is necessary to wait twenty minutes after the last injection for the full effect of the Adrenalin to develop. The whole field of operation should be blanched and insensitive to pricks but not to touch—analgesia, not anesthesia. The incision may then be made with confidence that no pain will be felt. The absence of oozing of blood is noticed. Only large vessels bleed at all.

Success depends upon a mastery of the principles, and practice in the details of the method. It is not enough to inject the fluid under the skin generally. Due regard must be had to the position and course of the nerves supplying the structures to be dealt with. The Adrenalin compound, by slowing the circulation through the part prevents the anesthetic agent from being rapidly washed away. The writer has used this method in thirty operations including the radical cure of hernia, strangulated hernia, orchidectomy, removal of varicose veins, psoas abscess, loose body in knee, tumor of neck (actinomycosis), colotomy, Thiersch skin grafting, and cystic adenoma of the thyreoid.

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Sanitary Conditions in the Philippines.

A glimpse at the sanitary conditions prevailing in Manila, Philippine Islands, is furnished by the following extract from the report of the Commissioner of Public Health, Major Carter issued June 20, 1903:

"The death rate during the month of May, 1903, was 30.02; a considerable increase over that for the month of April, which was 22.12, but much less than that for the month of May a year ago, when the rate was 65.81. The increase for the present month was due almost wholly to a sudden rise in the number of cases of cholera, there being a total of 230 cases. The type of the disease was also severe, as of the above cases 212 ultimately died, giving a case mortality of 92.17 per cent. In the month of January there were 7 cases; in February, 2; in March, 5; in April, 32. The rise in the latter part of April and during May was not unanticipated, as the general history of cholera epidemics in the Tropics shows a sharp increase in the number of cases coincident with the beginning of the rains, when any infectious material on the ground surface or in shallow vaults, which local conditions may have rendered temporarily harmless so far as conveying disease is concerned, is washed by rains into the water courses and perhaps widely spread through a general source of water supply. The outbreak of May occurred under such conditions. It was noteworthy that the greater part of those who contracted cholera were boatmen, laundresses, fishermen, and others whose occupations brought them into close contact with the Pasig River and certain esteros. A large proportion of the cases occurred in districts along the river and the most contaminated esteros. In these districts an unduly high proportion of cases occurred on boats, and this was particularly true of boats moored in certain backwater reaches relatively little affected by tides. Thus, 63 of the total of 230 cases for the entire city occurred in San Nicolas district, and largely on boats moored in the vicinity of the custom-house and quay near the office of the Captain of the Port. The natives themselves were inclined to attribute the cholera to the use of infected foods purchased in the Divisoria Market, but the distribution of the disease through the city was such as to render this unlikely. A number of samples of water taken from the backwaters and eddies of the Pasig River were examined by medical officers of the Quarantine Service, and the presence of cholera germs in large numbers was determined. This work was checked by officials of the Board of Health and the results previously obtained were fully confirmed, the greatest intensity of river-water infection being demonstrated in samples taken from the slack-water anchorages where the greatest number of cases had occurred on boats. This was the more readily to be understood from the fact that the cholera cases were frequently not found for some time; bodies dead of cholera were not rarely weighted and disposed of by being thrown into the river, and in any event the cholera discharges soon found their way overboard to still further contaminate an already infected water. This water was backed up by the rising tide into the esteros and the infection was thus conveyed to other quarters of the city. The boat population could not be prevented from using this water for domestic purposes, and where the cause was attributed to infected food purchased in the Divisoria Market it was frequently found that such food had been subsequently washed in river water and thus probably become infected after purchase. The Board of Health met the situation by increased vigilance with respect to sanitary inspection, more stringent oversight over the markets, and by the issue, on May 22, of 30,000 circulars printed in Tagalog and 5,000 in Chinese, concisely stating in simple language the most important sanitary rules for the prevention of cholera. Within the next few days a copy of this circular was posted in every house and on every inhabitated water craft in the city. A considerable decrease of cholera was soon apparent as a result of these special efforts. While in the two weeks—May 8 to 22—there had oc-

curred 129 cases of cholera, in the two subsequent weeks—May 23 to June 6—there were but 83 cases, and by the end of the first week in June the outbreak was well under control and the cases were few and scattering. During the outbreak of this month more than twice as many males died of cholera as females, and of the 194 deaths reported only 12 occurred in children under the age of 15 years. By far the greatest mortality from cholera occurred in the class between the ages of 25 and 30 years, 41 deaths occurring during this period of life.

During the month of May there was a gratifying falling off in the number of plague infections, there being but 27 cases and 23 deaths (one in a transient), as compared with 52 cases and 49 deaths for the previous month. This decrease was apparently in direct response to the special efforts put forth by the Board of Health, including the destruction of plague houses, rat catching, and, of most importance, the general inoculation of the Chinese with Shiga's antiseptic prophylactic virus, which was begun during the month. There were 10,051 rats reported as destroyed during the month, and of those examined post-mortem for plague none were found to be so affected, as compared with about 1 per cent found diseased during the previous month. It is not fairly to be expected that any large proportion of the rat population will ever be found to be affected with plague at any one time, for the reason that the plague rats not only soon die from the disease but are sick animals whose impaired appetites do not tempt them to destruction by baited traps or poison. For these reasons the true proportion of the rat population affected with plague may be considered as being somewhat in excess of the proportion of the captured rats which may be found to be affected with the disease.

There were 21 cases of smallpox, with 2 deaths, during the month.

Summarizing the general sanitary work of the Board of Health during the month, it may be mentioned that the total number of inspections and reinspections of houses amounted to 204,277, and of cascoes and other water craft of 2,480. There were 19,854 houses cleaned as a result of sanitary orders, and 431 painted or whitewashed; 649 houses and 22 water craft were disinfected. A total of 15,410 yards were cleaned, repaved, or repaired, and the contents of 2,470 cesspools and vaults were removed.

During the month 672 sanitary orders were issued, of which 350 were complied with, and proceedings in 17 instances were pending in the courts. A total of 7,598 animals were inspected on arrival at the port; 8,212 were inspected at the abattoir, of which number 21 were condemned. The crematories disposed of 15,543 dead animals and birds, which number included 9,143 rats, and, in addition, 2,121 loads of refuse were burned. The excessive number of animals requiring disposal was due to the loss of animal life in the Santa Cruz fire. There were 17,432 persons vaccinated in the city of Manila, and 125,725 units of vaccine virus issued for use throughout the Islands.

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The Clinic Publishing Company, Ravenswood Station, Chicago, are making a special drive on two volumes published by them. "Stories of a Country Doctor," and "Recollections of a Rebel Surgeon," are two books that every doctor will want to add to his library. The wit, pathos, anecdote and personal experience will appeal to the heart of every brother in the profession. The tales are told with a spontaneous, brilliant style of expression, and the interest is quickened and held from first to last. Don't fail to take advantage of our special offer: The two books, bound in cloth, for only $1.00.

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ORGANIC IRON MEDICATION IN SECONDARY ANAEMIAS.

A Clinical and Hematological Study.

By Lino S. Chibas, M. D., senior assistant house physician, Columbus Hospital, New York, and G. A. De Santos Saxe, M. D., assistant pathologist to the Columbus Hospital, New York.

A great deal has been written in recent years on the value of the various new organic iron compounds in the treatment of anaemia, and our only excuse for the presentation of this report is that every new series of clinical observations, made with due conservatism and accurately recorded, is of value in confirming or disproving some fact or theory in medicine.

The problem of treating secondary anaemias is an interesting one. In each case there is, in the first place, the primary factor, be it loss of blood through hemorrhage, spontaneous or traumatic; or be it the lowering of the functional activity of the blood-forming organs wrought by disease somewhere in the body, or by the action of toxins; or the direct destruction of the red cells and their hemoglobin in the circulating blood by some more violent toxic agency.

The first question, therefore, is how to remove the primary factor, or, at least, how to arrest its influence on the state of the blood. The second is, how to improve the state of the blood, so as to give it a new lease of life by increasing the amount of hemoglobin—that prime agent of oxygen exchange—and the number of red cells, the carriers of this agent.

In each individual case of secondary anaemia there are different obstacles to be overcome as regards the primary factor, and therefore the treatment of the primary disease varies; but the therapy of the secondary condition is alike in

all cases. Iron and its assistant, manganese, are the specifics to which we must have recourse—of that there has long since been no doubt—but the form of iron that should be used for this purpose is another question.

The problem as to the exact site and mode of absorption of iron which is administered therapeutically has occupied pharmacologists for a number of years, and a great deal has been written on the subject, and yet, there is still no agreement even as regards some of the essential points of this question. Is iron absorbed at all in the inorganic state? If so, in what form and in what quantities? What form of iron is most readily absorbed? How does iron act if it is not absorbed, or if only infinitesimal amounts, totally inadequate for the needs of the body, enter the plasma and are taken up by the molecules of hemoglobin? All these questions have been discussed and rediscussed, but as yet, as Hammarsten says: "The action of the iron salts is obscure."

In a clinical article we are not called upon to go into details in discussing the various phases of the question as to the absorption and mode of action of the iron salts, but a few words may be said to show the present status of the subject.

Whether iron compounds of the inorganic group are absorbed at all, is a question of subsidiary interests in the present inquiry. There are two diametrically opposite views on this question. Bunge and his pupils say that inorganic iron salts are not absorbed in any amount, however small, and that Blaud's pills and similar preparations act only by combining with the hydrogen sulphide and the alkaline sulphides of the intestine, thus preventing the decomposition of the organic compounds of iron existing in our food, especially in vegetables, and so permitting the absorption of these compounds into the blood. The opposite view is held by Quincke and others, but the balance of evidence is in favor of Bunge's hypothesis. The wellknown fact that enormous doses of iron are required to produce appreciable effects in chlorosis supports this theory. Thus, if a woman takes six grains of reduced iron three times a day (eighteen grains daily), it will take weeks to restore her to the normal condition if her hemoglobin has fallen to 50 per cent. And yet, the entire amount of iron in the blood of a normal woman of average weight is only thirty grains, so that if the inorganic iron were absorbed, as some observers claim, a few days would suffice to restore the balance of hemoglobin and red cells.

On the other hand, organic iron compounds, especially such as are composed of iron with a proteid substance that resembles as closely as possible the proteids of the food as they occur in the intestine (e. g., peptones), are undoubtedly absorbed into the blood in sufficient amounts to produce a comparatively speedy therapeutic effect in anaemia, without injuring, as the inorganic compounds often do, the epithelial covering of the stomach and intestine, and thus causing gastro-intestinal symptoms summarized under the two general headings of dyspepsia and constipation.

It is these advantages that led to the general adoption of the iron peptonates, albuminates, etc., as the remedies to be preferred in the treatment of anaemia. In this report we deal with one of these preparations, that known as pepto-mangan, Gude, in which iron and manganese exist in the form of peptonates. Gude's pepto-mangan has been used for a long time at the Columbus Hospital as a matter of routine in all anaemic patients during convalescence from prolonged illness or from operations. The satisfactory results which have been obtained with this preparation have been noted, in a general way, by the visiting staff as well as by the house physicians, but until now we had made no study of the exact results, as attested by the examination of the blood before and after the initiation of the treatment.

In order to determine more accurately what could be expected of pepto-mangan in secondary anaemias as they occur in a general hospital, we studied a number of cases in the medical, surgical and gynecological wards. Of these a majority were in the services of Drs. Ramon Guiteras and Egbert H. Grandin, visiting surgeon and visiting gynecologist to the hospital, and take this opportunity to acknowledge their courtesy in permitting us to pursue this work.

About forty cases were studied from October 1, 1902, to March 1, 1903, in as thorough manner as possible, with a view of determining the action of the preparation to be tested. Unfortunately, for reasons beyond our control, a great many of these patients left the hospital, believing themselves sufficiently improved, without giving us time to try the remedy for a sufficient period to obtain definite results. We present, however, twelve cases in which the medication, pepto-mangan (Gude) in tablespoonful doses, was continued for three or more weeks, usually for about a month in each instance. In each of these cases blood-counts were made before beginning the treatment, as well as after it had been discontinued. The cases all showed remarkable improvement in the color index and in the number of blood corpuscles.

On reviewing the results obtained, we find that, considering the diversity of cases studied under the influence of pepto-mangan, the ratio of increase in the hemoglobin and red cells was very uniform. In one case only of the twelve studied in detail, there was no improvement noted in the anaemia, and that was a hopeless case of tuberculous peritonitis, in which, however, the patient was discharged improved as regards her abdominal symptoms after operation. In another case the improvement was but slight, but this was a patient with renal tumor, and a marked cachexia. These two cases were as severe tests as an iron preparation could be subjected to, and perhaps the paucity of the results is not to be wondered at in these instances.

In the remaining ten cases reported here, as the table shows, the results were very satisfactory for the short duration of the treatment. There is no question that a few weeks longer would have brought most of the "improved"

cases up to the point where we could say that the anaemia was "cured." But unfortunately our patients belonged to a class in which every day spent in a hospital counts in privations for others who depend upon them, and we have been often obliged, upon the insistent demands of the patients and their friends, to discharge the convalescents at the earliest possible date.

In addition to the forty-odd cases which we studied this winter, pepto-mangan has been used in the hospital for over two years in anaemic convalescents, with uniformly satisfactory results. In none of the cases under our observation did any untoward symptoms accompany or follow the use of this preparation. In no case did constipation, nausea, headache, or digestive difficulties follow its administration.

The results recorded here correspond with those obtained with the use of pepto-mangan by Loomis, Van Schaick, and von Ramdohr, of New York; Peterson, Perekham, Doehring, of Chicago; Wolffe, of Philadelphia; Summa and Bauduy of St. Louis; Von Ruck, of Asheville, N. C.; McGuire, of Richmond, Va.; Frieser and Pohl, of Vienna, and Fasano, of Naples.

On the whole, therefore, we have found pepto-mangan a very satisfactory and efficient hematinic in secondary anaemias.

"Extension of the septic products along the vascular highways is prevented by the use of Antiphlogistine."

"The abstraction of blood from the deep blood-vessels into the superficial capillaries through physiologic innervation is physiological phlebotomy—bleed, but save the blood—is the mechanics of Antiphlogistine."

Hydroleine as a Tissue Builder.

By W. Harper Sloan, M. D., chief of Ear Department Medico-Chirurgical Hospital, Philadelphia, Pa.

Every physician has at some time in his professional career, become discouraged in his inability to treat successfully cases of malnutrition, wasting diseases, and kindred ailments that failed to respond to the ordinary tonic treatment so much in vogue among us.

I would invariably place my patients suffering from debility, bronchitis, and all diseases of a wasting nature, on a system of tonic treatment, which I found gave me uncertain results, and in looking about for an improvement on the old method of temporary stimulation, I was led to give Hydroleine a fair and impartial trial. The results obtained were so encouraging that I have learned to trust it in all my cases where I desire a permanent tissue builder and reconstructive. I find that it is agreeable to the patient, well borne by the stomach, and the only combination containing cod-liver oil that does not produce unpleasant eructations, so objectionable in most cod-liver oil preparations. It is a pancreatized, predigested oil, giving no extra work to the digestive apparatus, being ready for alimentation as soon as ingested.

Case 1. Mrs. C., age thirty-five years. Came under my care about six months ago, suffering from chronic bronchitis. She stated that she had been a sufferer for years, had been under the care of several eminent physicians, having received only temporary relief. She had lost her appetite, could not sleep, was very weak and nervous; after a paroxysm of coughing she would be compelled to lie down, so marked was the prostration. I started her on the ordinary treatment consisting of expectorants, sedatives, internally, to act on the bronchial mucous membrane. I gave her the proper instructions in regard to diet, clothing, etc., which I have reason to believe she obeyed faithfully. After a week's treatment the lady informed me she saw no improvement at all. I, therefore, concluded it was time to change my tactics, which I did. I ordered her to stop her medicine, and prescribed Hydroleine, directing her to take a tablespoonful four times a day. In the course of two weeks I noticed a marked improvement; the cough had lessened, she slept better, and she expectorated very freely, which was a source of great relief to her; and from that time there was a gradual and steady improvement in her condition. I kept her under observation for nearly four months, when I discharged her. She is enjoying better health now than she has for years. She keeps Hydroleine on hand, taking it occasionally.

Case 2. Miss H., aged sixty years, had been a sufferer for years with a pulmonary affection that had been diagnosed as tuberculosis in her early life. She informed me that she had had several hemorrhages from the lungs. When she came under my care she was profoundly anaemic and debilitated, suffering with cough, but could not expectorate. Temperature was normal, pulse somewhat quick; respirations were increased; marked dyspnoea. I ordered cod-liver oil (emulsion) at her first visit; but she informed me that her stomach would not stand the most palatable emulsion, as she had tried them many times. I then ordered Hydroleine, which proved satisfactory to both the patient and myself. The cough lessened, her strength gradually returned, and, much to my surprise there was no gastric disturbance, which was due entirely to the pancreatin and soda bi-carb. that Hydroleine contains.

Case 3. Horace F., age eight years, came under my care suffering with chronic otorrhea, which at its best is a stubborn affection to deal with. It had followed scarlet fever two years previous. The boy was naturally depressed and anaemic from the continued destruction of white blood corpuscles. I instituted the regular treatment, which met with varying results. He would improve for a few days; then the discharge of pus would reappear with profusion. I here determined to reinforce the blood-supply, concluding that if I could increase and strengthen the corpuscular elements of the blood, I would be better able to control the pus germ that was developing so rapidly. I could think of no better reconstructive than Hydroleine which I ordered him to take. At first he objected to the taste of the preparation, but this was gradually overcome, after which he took it without objection. It was well borne by the stomach, and the patient's general condition improved, while the discharge lessened, and I expect to discharge him as cured in another week's time.